Oil, Paint and Drug Reporter.

VOL. XXXIII.—No. 11. NEW YORK, WEDNESDAY, MARCH 14, 1888. PRICE PER YEAR, If paid in advance, $4.00. $6.00.

MERCK'S CHEMICALS

ALL THAT IS NEW, RARE AND VALUABLE IN THE MATERIA MEDICA.

To the Wholesale Trade!

I respectfully call the attention of my friends to the list of articles on page 36, of which I have just received a fresh supply from my Darmstadt-Laboratories.

MERCK'S NEW YORK HOUSE: 73 WILLIAM STREET.

ALCOHOL

AND COLOGNE SPIRIT.

ESTABLISHED 1835. JAMES A. WEBB & SON, 165 Pearl St. NEW YORK.

Bergen Port Sulphur Works,

ESTABLISHED 1841.

T. & S. C. WHITE,

MANUFACTURERS OF

Roll and Virgin Rock Brimstone

And Sublimed (Chamber) Flowers of Sulphur.

30 BURLING SLIP. NEW YORK

CORKS

JOHN ROBINSON & CO.

45 MURRAY ST., New York

83 UNION ST., Boston

FLETCHER MANUFACTURING CO. ESTABLISHED 1793

FLETCHER WICK IMPROVED AND PATENTED. FOR LIGHT OR HEAVY OILS

Factories: Providence, R. I.

WAREHOUSES:
18 & 20 Thomas Street, New York, W. B. Fletcher, Agent
119 Franklin Street, Boston, S. G. Trippe, Agent.

PURE WHITE CASTILE SOAP.

SWAN BRAND. (Superior to Conti's.)

By 10 boxes or upwards, in bars, 10c. By 10 boxes or upwards, in ¼ lb. cakes, 11c.

S. & F. BRAND DALMATIAN INSECT POWDER.

STALLMAN & FULTON, Importers of Drugs, 10 Gold Street, New York.

Philadelphia Office, 17 North Front St. Chicago Office, 108 & 110 Randolph St.

CLARENCE BROOKS & CO.,

Manufacturers of Fine Varnishes,

Corner West and West 12th Streets,

Send for Quotations. NEW YORK

BUFFALO ALCHOLENE CO. ALCHOLENE TRADE MARK BUFFALO, N.Y.

SOLE MANUFACTURERS OF

ALCHOLENE

AND SPECIAL EXTRA REFINED

WOOD ALCOHOL,

92, 95 and 97 per cent.

New York Office, 195 Water Street.

AGENTS.

MARTIN THAYER, Brockton, Mass. | F. W. THURSTON & Co, Chicago, Ill.
PAUL A. DAVIS, JR., Philadelphia, Pa. | C. HERBOTH & Co., St. Louis, Mo.

F. W. DEVOE & CO, Fulton St. cor. William, NEW YORK.

PAINTS, VARNISHES, BRUSHES, ARTISTS' MATERIALS.

COFFIN, DEVOE & CO., 176 Randolph St., CHICAGO.

EDWARD SMITH & CO.

158 WILLIAM STREET, NEW YORK.

E.S. 1827 &Co.

VARNISHES, COLORS.

ST. DENIS DYESTUFF & CHEMICAL CO., L't'd.

Of Paris, France, A. POIRRIER, President.

ANILINE DYES, OIL AND SALT, ARCHILL, CUDBEAR, CACHOU DE LAVAL, INDIGO EXTRACT MIRBANE OIL, PATENTED AZO DYES, &c.

E. COEZ & CO.'S French Dyewood Extracts.

Sole Agents in the U. S., SYKES & STREET,

111 MILK ST., BOSTON. 21 CEDAR STREET, NEW YORK. 43 N. FRONT ST., PHILADELPHIA

CLARK & WARREN CO.,

TRADE MARK

F. E. MULKIE, Proprietor. CORRY, PA., U. S. A.

TRADE MARK

REFINERS AND MANUFACTURERS OF

SPECIALTIES IN ALL FILTERED

PETROLEUM PRODUCTS

COLD TEST CYLINDER OILS. CYLINDER STOCKS. NEUTRAL OILS.

PENNSYLVANIA OIL CO., LIMITED,

Sole Agents for U. S. A.

CREW, LEVICK & CO., FOREIGN AGENTS.

WE SELL TO JOBBERS ONLY.

182 FRONT ST., NEW YORK.
40 DEARBORN ST., CHICAGO.
113 ARCH ST., PHILADELPHIA.

THE PEERLESS REFINING CO.,

Producers, Convevors and Refiners of

PETROLEUM

AND ITS PRODUCTS.

We Guarantee our goods EQUAL, if not superior, to any on tne market.

REFINERIES
Cleveland, Ohio,
—AND—
Findlay, Ohio.

GENERAL OFFICES:
50 Wade Building, CLEVELAND, OHIO.
CORRESPONDENCE SOLICITED.

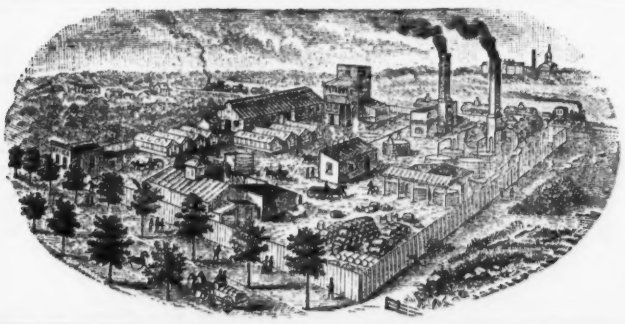
THE NATIONAL REFINING CO.

Refiners of Petroleum and its Products.

FILTERED AND STEAM REFINED CYLINDER STOCKS.

SUPREME LIGHT Burning Oil, Best in the World

Offices, Wade Building, CLEVELAND, O.



ROBERT F. READ. CHARLES S. READ. GEORGE SMITH.

Chesapeake Oil Refinery,

READ BROTHERS & CO.,

Manufacturers by our own Process of

Fine Mineral Machinery Oils,

—OUR SPECIALTIES:—

CARDINAL ENGINE OR RED OIL, 18° 20° and 22° Gravity,

HIGH FIRE TEST. EXTRA VISCOSITY.

Bleached Spindle Oil, Dark Machinery Oil, Paraffine Oil all Gravities Paraffine Wax.

WORKS, HIGHLANDTOWN, BALTIMORE MD.

P. O. Box 547, Baltimore, Md. Correspondence Solicited.

GENESEE OIL WORK .

J. C. & W. H. BRIGHT, Propr's. Refiners and Manufacturers of

Filtered Cylinder, Engine and Lubricating Oils

Adapted to

All Classes of Machinery.

Office and Works, BUFFALO, N. Y.

H. W. DOPP & SON,

MANUFACTURERS OF

SOAP MAKERS' MACHINERY

Patent Steam Jacketed and Enamelled Kettles, Steam Presses, Lever Presses,

DOPP'S

Patent Soap Remelting Crotchers.

SOAP DIES

462 Ellicott St., . BUFFALO N. Y.

Mention this paper when writing

Announcement to the Wholesale Drug and Oil Trades.

Cleveland Petrolatum Co.,

H. M. BROWN, Manager,

Original and Largest Manufacturers of Petrolatum, U. S. P.

In addition to their increased production of Densoline Petrolatum, U. S. P. and Petrolatum B. P., and the largest line of Medicinal and Toilet Goods therefrom, we are now manufacturing a full line of

Best Lubricating Oils,

not ding Gelatine, Castor Machine Oil & all Gelatine Oils

by a new process *directly from Lard.* We offer Gelatine and Castor of light Straw Color, 38° gravity and at 26° gravity in clear white and brilliant, and guarantee these oils will not separate. Prices very low. Samples furnished to Wholesalers.

Cleveland Petrolatum Co.,

771 to 773 PEARL STREET CLEVELAND, O. U. S. A.

The Lithograph Tin Ware Co.

MANUFACTURERS AND LITHOGRAPHERS OF

PAINT, OIL AND VARNISH CANS,

ROUND, SQUARE AND OBLONG METAL BOXES

FOR

Dry Colors, Petroleum and Druggists Specialties.

88 and 90 Champlain St.,

CLEVELAND, OHIO.

Correspondence Solicited.

EDWARD FORD, PREST. A PITCAIRN VICE-PREST. E. L. FORD, SEC'Y JOHN F. SCOTT TREAS.

PITTSBURGH PLATE GLASS CO.,

PAID UP CAPITAL, $2,000,000.

MANUFACTURERS OF

POLISHED PLATE GLASS

Ground and Rough Plate Glass for Floors and Skylights, Three-sixteenths thickness, made expressly for fine residences.

LARGE AND WIDE GLASS A SPECIALTY.

The Largest Plates of Glass in the cities of Chicago, Cleveland, Detroit, St. Paul, Syracuse, Pittsburgh, Philadelphia, Baltimore and in many New York buildings, were manufactured at our works.

IMMENSE PRODUCTION.

The combined production of our two factories is 260,000 square feet per month. The largest production of any factory in the world which enables us to fill our orders promptly. The high reputation and unprecedented large sales of glass made by this company since its organization is due entirely to its superior quality, NATURAL GAS alone being used throughout both works as fuel.

WESTERN UNION WIRE AND TELEPHONE CONNECTIONS IN GENERAL OFFICE,

CREIGHTON, PA.

EDWARD WALSH, JR., President, ST. LOUIS. E. W. HUMPHREYS, Vice President, NEW YORK. A. L. ROWE, General Manager, ST. LOUIS.

Mississippi Glass Company

SOLE MANUFACTURERS OF

PURE WHITE

Rough and Ribbed Skylight Glass,

THICKNESS 1-8, 3-16, 1-4 AND 3-8 INCH.

New Specialties.

Ruby, Cathedral AND Ondoyant

RUBY AND VARIAGATED DECK LIGHTS,

White and Colored Diamond Ribbed

ALL COLORS.

Correspondence Solicited.

GENERAL OFFICE AND WORKS,

Eastern Agent, GILBERT S. KING, 102 Chambers St., N. Y. **ST. LOUIS, MO.**

H. JULIUS KLINGLER, Pres't. ROBT. C. SCHMERTZ, V. Pres't. A. F. CHANDLER, Sec'y. & Treas.

Standard Plate Glass Co.,

MANUFACTURERS OF

Polished Plate Glass.

ALSO

Rough and Ground Glass of any desired thickness for floors and Skylights. We manufacture glass of any size, from one foot square to as large as can be shipped.

NATURAL GAS is the only Fuel used about our works **BUTLER, PA.**

ADVERTISERS.

BRUSHES.

Devoe, F. W. & Co..... 1
Whiting, John L. & Son..... 22

CHEMICALS.

Atlantic Sulphur Works..... 53
Battelle & Renwick..... 53 & 54
Bellhouse, Dillon & Co..... 59
Bergen Port Sulphur Works..... 1
Billings, Clapp & Co..... —
Binns, Jos..... —
Blackwell, Geo. G..... 44
Brooklyn Sulphur Works..... 52
Brunner, Mond & Co, Ld..... —
Burcey Chemical Co..... 18
Chappell, W. H., & Co..... 55
Chaskel & Co., Jas..... 34 & 46
Davis, Wolt & Co..... 59
DeHaen, E..... 54
Eimer & Amend..... 47
Fairfield Chem. Co..... 55
Ferguson Bros..... 54
Gabriel & Schall..... 17
Gamble, Jos. C., & Son..... 53
Gridley & Co..... 52
Hendrickson, J. B..... 45
Herf & Frerichs Chemical Co..... 52
Hill's Sons & Co., Edward..... 53
Jarrow Chemical Co..... 52
Jayne Chemical Co., H. W..... 44
Knowles Bros..... 45
Larkin & Scheffer..... 54
Lee, Jas., & Co..... 53
Liebman & Butler..... 45
Linder & Meyer..... 54
Meyer, G. A. & E..... 54
Michigan Carbon Works..... 22
Mort. Liddell & Co..... 4 & 55
Newcastle Chemical Works Co..... 54
N. Y. Tartar Co..... 34
Niagara Laboratory..... 54
Nichols & Co., Geo. H..... 52
Passaic Chemical Co..... 64
Penna. Salt Manufacturing Co..... 53
Powers & Weightman..... 63
Riker, J. L. & D. S..... 54
Rosengarten & Sons..... 45
Slocum, Lloyd & Orr..... 59
Solvay Process Co..... 52
Stanway & Bayley..... 53
Tartar Chemical Co..... 63
Thomsen, Alonzo L..... 55
Union Chemical Works..... 63
Welch, Holme & Clark..... 55
White & Son, Chas. T..... —
Wiarda, J. C..... 55
Wing & Evans..... 52, 53 & 54
Wood Extract Co..... 17
Yarnall & Son, Ellis..... 55

CHEMISTS.

Rupp, Wm..... 59

DRUGS &c.

Baker H J. & Bro, (castor oil)..... 63
Bernard & Co., Leo..... 48
Boehringer, C. F. & Sons..... 45
Buffalo Alcholene Co..... 1
Burroughs, Wellcome & Co..... 64
Chaskel & Co., Jas..... 34 & 46
Colton, J. W..... —
Dickinson Co., Albert..... 48
Dodge & Olcott..... 46
Eimer & Amend..... 47
Evans, Sons & Co..... 64
Fahnestock, B. S..... 4
Hillier's Son Co., R..... 46
Hill's Son & Co., Edward..... 53
Howe & French..... 46
Jewell, H. L..... 46
Lyman, Knox & Co..... 64
Lehn & Fink..... 45
Liebman & Butler..... 45
Lutz & Movius..... 44 &64
Maltine M'f'g Co..... —
McAllister, F. B..... 45
McIlvaine Bros..... —
McKesson & Robbins..... 45
McLaren & Co., G. A..... 46
Merck, E..... 1 & 36
Merz Capsule Co..... 44
Milwaukee Malt Ext. Co..... 47
Moore, J. E..... 44
New York Coal Tar Chemical Co..... 54
New York Quinine & Chemical Works..... 45
Parke, Davis & Co..... 41
Pfizer, Chas. & Co..... 63
Roessler & Hasslacher..... 64
Rogers & Pyatt..... 44
Ropes, E. W..... —
Salomon & Bros., L. A..... 34
Schieffelin, W. H., & Co..... 45
Schering & Glatz..... 51
Schwartz, J. E., & Co..... 4 & 34
Smith, Kline & Co..... 64
Stallman & Fulton..... 1
Thomsen, John J..... 45
Tyler & Finch..... 46
Webb, Jas. A. & Son..... 1
Zimmer, C..... 45

DYESTUFFS.

Bloomfield & Co., J. C..... 59
Canada Dyestuff & Chemical Co..... 59
Coes & Co. E..... 58
Cooper, W. B..... 58
De Ronde, Abram, & Co..... 35
Fabriques de Produits Chimiques de Thaun et de Mulhouse..... 59
Heller & Merz..... 59
Holliday, Read & Sons..... 58
Hollingsworth & Peterson..... 52 & 59
Howe, Balch & Tay..... 59
Kalion Chemical Co..... 59
Klipstein, A..... 34
Matheson, W. J., & Co..... 64
McKenna, J T..... 58
Morgan, Jas. L. & Co..... 59
New York Dyewood Extract and Chem. Co. 63
Pinkhardt & Kuttroff, Wm..... 58
Roos & Bro., W. A..... 35
St. Denis Dyestuff & Chemical Co..... 1
Schoellkopf, Hartford & Maclagan..... 58
Schulze-Berge & Koechl..... 35
Sharpless, John M., & Co..... 59
Sykes & Street..... 1, 55 & 59
Taylor & Barker..... 58
Weiler & Co., J. W..... —

ESSENTIAL OILS.

Brandt & Kienzler..... 48
Charras & Co..... 46
Chaskel & Co., James..... 34& 46
Codman & Hall..... 46
De Pasquale & Co., Fratelli..... 58
Dodge & Olcott..... 46
Hill's Son & Co., Edward..... 53
Hires, C. E..... 48
Jakson & Co..... 46
Liebman & Butler..... 45
Peirson & Perkins..... 48
Sestuccis & Co., Giov..... —
Rockhill, Clayton..... 46
Sozio & Andriolli..... 46
Todd, Albert M..... —

GLASS.

Crystal Plate Glass Co..... 23
DePauw's American Plate Glass Works..... —
Mississippi Glass Co..... 3
Pittsburgh Plate Glass Co..... 3
Semmer & Co., Phillip..... —
Standard Plate Glass Co..... 3
Vanhorne, Griffen & Co..... 17

GLYCERINE.

Chicago Glycerine Co..... 63
Goodwin Manufacturing Co..... 63
Gordon, W. J. M..... 63
Laist & Hochstetter..... 63
Marsh & Harwood Co..... 63
Marx & Rawolle..... 63
Procter & Gamble..... 63
Schering & Glatz..... 54
Werk & Co. M..... 63

MACHINERY TANKS, ETC.

Bliss Co., E. W..... 24
Brown Cotton Gin Co..... 27
Bushnell Co., The G. H..... 21
Carver Cotton Gin Co..... 24
Carey, Samuel..... 23
Clayton Air Compressor Works..... 64
Dopp & Son, H. William..... 2
Foos Manufacturing Co., The..... 24
Guild & Garrison..... 27
Hall Manufacturing Co..... 16
Huyett & Smith Mf'g. Co..... 20
Kaestner & Co. Charles..... —
Remmy Richard C..... 45
Ross, Chas. Jr..... 14
Simpson, J. S. & G. F..... 44
Smith & Vaile Co., The..... 15
Taylor & Sons, Wm..... —
Thompson & Campbell..... —

MISCELLANEOUS.

Ajax Metal Co..... 20
American Wick M'f'g Co..... 43
Anchor Mfg. Co..... 43
Breffit's Aire & Calder Bottle Co..... 48
Decker, P. H..... 23
Edwards & Co., Chas. M..... 17
Excelsior Manufacturing Co..... 4
Fletcher Manufacturing Co..... 1
Harrington & King Perforating Co..... 43
Jones & Co., S. L..... 64
Lithograph Tin Ware Co., The..... 2
Muller, F..... 64
N. Y. Belting and Packing Co..... 28
Plume & Atwood Manufacturing Co..... —
Postal Package Co..... 47
Robbins, A. A..... 55
Robinson & Co., John—Corks..... 1
Schofield, E.—Oil Press Mats..... 4
Smith Mfg Co., The J. O..... 18
Smith & Co., W. H..... —
U. S Bottle Packing Co..... 48
Vogel, William & Bros..... 63
Walton & Whann Co..... 20

NAVAL STORES.

Dixon Bros., (The Ridler Co.)..... 27
Standard Oil Co..... 42

OILS—ANIMAL AND FISH.

Arctic Oil Works..... 24
Clark, F. G..... 28
Davis Oil Co..... 28
De'ano's Sons, Geo..... 24
Fairbank & Co., N. K..... 24
Macy's Sons, Josiah..... 24
Rockhill, C..... 25

OIL—COTTONSEED CAKE &c.

American Oil Co..... 41
American Cotton Oil Co..... 29
Brode, F. W., & Co..... 25
Butcher's Sons Company, W..... 41
Duggan, J H..... 28
Future City Oil Works..... 25
Southern Cotton Oil Co..... 13
Union Oil Co..... 29
Walker, W & H..... 13

OIL—LINSEED.

Atlantic White Lead & Linseed Oil Co..... 14
Dean, J. A. & Co..... 15

OILS—PETROLEUM.

Acme Oil Co..... 61 & 62
American Lubricating Oil Co..... 25 & 57
Atlantic Refining Co..... 57
Beacon Oil Co..... 61
Beaugrand, E..... 24
Bortido, J. J. G..... 64
Borne, Scrymser & Co..... 28
Bush & Denslow Manufacturing Co..... 28
Chesapeake Oil Refinery..... 2
Chester Oil Co..... 30
Clark & Warren Co..... 1
Cleveland Petrolatum Co..... 2
Consolidated Tank Line Co..... 28
Crew, Levick & Co..... 28
Delaware Lubricating Oil Refinery..... 27
Devoe Manufacturing Co..... 62
Eagle Refining Co., The..... 30
Eclipse Lubricating Oil Co., L'td..... 61
Empire Refining Co., L'td..... 60
Galena Oil Works, L'td..... 42
Genesee Oil Works..... 2
Ingalls & Co..... 24
Maverick Oil Co..... 30
McKirgan Oil Co..... 61
Meriam & Morgan Paraffine Co..... 34
National Refining Co..... 2
New York Oil Co..... 2
Peerless Refining Co..... 2
Polar Oil Co..... 26
Pratt Manufacturing Co..... 30
Reed, Hall & Hewlett..... 25
Signal Oil Works, L'td..... 61
Stillman & Sterling..... 27
Standard Oil Co..... 62
Thompson & Bedford Co, L'td..... 60
Vacuum Oil Co..... 26
Vesta Oil Works..... 61
Waters Pierce Oil Co..... 42

PAINTS COLORS, &c.

Acme White Lead & Color Works..... 21
Adler, S. & Sons..... 18
American Bronze Powder Co..... 18
Barnett, James P..... 18
Belknap's Son, E. S..... 14
Billings, Taylor & Co..... 19
Brand, James..... 14
Bridgeport Wood Finishing Co..... 64
Briggs, John & Co..... 14
Brooklyn Color Works..... 20
Budd, J. J..... 20
Burgess & Newton..... 22
Chattanooga Paint Co..... 20
Chilton M'f'g Co..... 17
Clinton Metallic Paint Co..... 17
Cutter & Co., W. B..... 17
Davidson & Knowles Co..... —
Devoe, F. W., & Co..... 1
Doggett Bros..... 17
Gabriel & Schall..... 17
Gayle & Semple..... 21
Government Waterproof Paint Co..... 21
Gridley & Co..... 45
Hampden Paint & Chemical Co..... 16
Harrison Bros & Co..... 15
Hill's Son & Co., E..... 30
Hore, Edward..... 18
Howell & Co., C. H..... 10
Hoyle, Robson, Barnett & Co..... 3
Johnston, H. M..... 22
Leech, Neal & Co..... 23
Long Island Paint & Color Works..... 23
Loos & Schneider..... 19
Lucas, John, & Co..... 16
Malone & Co., Frank..... 23
Marsching & Co., J..... 4
Martin, L., & Co..... 16
Meier, Geo., & Co..... 17
Michigan Carbon Works..... 22
Moser, Charles, & Co..... 16
Nolen & Boardman..... 16
Page & Krause Mfg & Mining Co..... 16
Peninsular W. L. & Color Works..... 17
Pfeiffer & Lavanburg..... 19
Prince's Metallic Paint..... 17
Reichard, F. A..... 18
Rutherford & Barclay..... 17
Rickard & Hewitt..... 17
Siebold, M..... 19
Smith, J. Lee, & Co..... 15
Standard Mineral Co, The..... 22
Sondheim, Alsberg & Co..... 18
Taintor, H. F..... 19
Tiemann, D. F., & Co..... 18
Truslow & Co..... 63
Waddell & Co., R. J..... 17
Wetherill Co., L'td, The S. P..... 28
Wood's Sons & Co, Henry..... 22
Woolsey Chas. A..... —

PHOSPHATES & FERTILIZERS

Heller, Hirsh & Co..... 45

VARNISHES & VARNISH GUMS.

Billings, Taylor & Co..... 19
Brooks & Co., Clarence..... 1
Crockett & Co., D. B..... 64
Gilson Asphaltum Co..... 64
Grace & Co..... 19
Hill's Son & Co., Edward..... 18
Lamson, John S., & Bro..... 19
Parrott Varnish Co..... 64
Pope, W. C., & Co..... 18
Pratt & Lambert..... 21
Rosenberg & Sons, D..... 19
Smith & Co., Edward..... 1
U. S. Varnish Co..... 4
Valentine & Co..... 21
Walker Gum Co..... 19

WHITE LEAD.

Anchor White Lead Co..... 15
Atlantic White Lead & Linseed Oil Co..... 14
Battelle & Renwick, (Ulster W. L. Co.)..... 14
Beymer-Bauman Lead Co..... 15
Bradley White Lead Co..... 15
Brandram, Bros & Co..... —
Briggs, John, & Co..... 14
Collier White Lead Co..... 14
Detroit W. L. Works..... 16
Jewett White Lead Co..... 15
Lewis, John T., & Bros..... 15
Maryland White Lead Co..... —
Maxwell W. L. Co..... 14
Morley Lead Co., The J. H..... 14
Penna. White Lead Co..... 14
Salem Lead Co..... 14
Southern White Lead Co..... 21

NOTICES.

SOAP MAKER WANTED.

A first-class and responsible Soap Maker for a large and old established soap factory. Must be ambitious, energetic and have a thorough knowledge, both in theory and practice, of the making of all kinds of soap. A good, permanent position for the right man. Married man and who has some knowledge of chemistry preferred. Address "SOAP FACTORY." Care of this office.

A MAN with five years' experience as foreman in manufacturing lubricating greases and compounding oils, wants situation. Address "A. D. S.," this paper.

CHEMIST wants a partner with capital to patent an apparatus for preparing chemically pure acetic acid and vinegar essence, used in the manufacture of wine vinegar. Address "CAPITAL," care of this paper.

WANTED—Experienced Varnish Salesmen only, by one of the largest houses in the line. A good salary will be paid to the right men. Address VARNISH, care O. P. & D. R.

WANTED—Agency for Chicago and the West by an established and reliable firm for a few good selling articles handled by Druggists and Grocers. No heavy and only reliable goods wanted. Address AGENCY, this office.

WANTED—A first class city salesman on vanilla beans, essential oils, etc. Address "CAPABLE," this office.

FOR SALE—Model soap factory (3 story brick) steam and latest improved machinery. Will sell at a sacrifice; (parties leaving the city). For diagram and particulars address DUTCHESS SOAP WORKS, Poughkeepsie, New York.

GLYCERINE.

A first-rate Glycerine Manufacturer, producing all qualities of distilled, chemically pure glycerine, glycerine for dynamite and crude glycerine, solicits

AGENTS

and Correspondents in the principal places in the United States. Please address letters to G. 6466, Care Rudolf Mosse, Cologne, Germany

WANTED.

A practical man, familiar with all the details of the Le Blanc process, including salt cake furnacing, black ash work, lixiviating, causticizing, evaporating, boiling down and finishing. Address, giving reference and experience, to "H. C. A.," care this paper.

ROGERS & PYATT, 80 Maiden Lane, New York, Manufacturers of Bleached Shellac and Spirit Varnishes

Mort. Liddell & Co. Widnes ENGLAND

SKULL BRAND CAUSTIC SODA

Registered.

THIS, BEST OF ALL

MARSCHING'S FRENCH GOLD PAINT FOR ORNAMENTAL GILDING

Decorative Paints

is easily applied on Frames, every variety of Woodwork, Metal, Plaster Paris, Leather, etc. etc

Send for price list to J. MARSCHING & CO 27 Park Place, New York

mporters an Manufacturers of BRONZE POWDERS, METAL LEAF, Etc.

J. C. DILWORTH, PROPRIETOR. | WHOLESALE EXCLUSIVELY

Descriptive Circulars on application. Correspondence solicited.

EXCELSIOR MFG. CO.,

106 Market St, Pittsburgh, Pa.

Oil, Cellar and Faucet Tanks; Cans, Pumps, Etc.

From 5 to 300 gallons. All sizes kept in stock for

Grocers and Oil Dealers.

SYRUP CANS, BUNG PANS, BARREL CAPS, FLOOR PANS

B. A. Fahnestock's VERMIFUGE

Observe particularly that the initials are "B. A." thus avoiding imitations.

1827—B. A. FAHNESTOCK,
1835—B. A. FAHNESTOCK & CO.,
1862—B. A. FAHNESTOCK'S SON & CO., & FAHNESTOCK, HULL & CO., New York.
1869—FAHNESTOCK HASLETT & SCHWARTZ.
1873—J. E. SCHWARTZ & CO.

This latter firm being the present

SOLE PROPRIETORS OF

B. A. Fahnestock's VERMIFUGE,

61 4th Ave., PITTSBURGH, PA.

PUBLIC AUCTION SALE

OF A WELL BUILT AND WELL ARRANGED PAINT FACTORY AND MACHINERY in Baltimore. We will sell on MONDAY, March 19, 1888, at three o'clock, P.M., by order of the owner, the very desirably situated PROPERTY SOUTHEAST CORNER OF SHARP AND STOCKHOLM STREETS, fronting 66 feet on Sharp and 155 feet on Stockholm street, 66 feet on Peach alley, thus having three good fronts, with a 10-foot court on the south, giving the property light on all sides. No property in Baltimore is better situated for manufacturing purposes. It is improved by a three-story BUILDING, with good heavy brick walls and timbers and metal roof, 66 feet on Sharp street, with a depth of 30 feet; and a one and a-half story BUILDING, well built of brick, 125 feet by 30 feet, fronting on Stockholm street.

At the same time all the MACHINERY contained in the above buildings, lately used by the Baltimore Enamel Paint Company, consisting of a 35-horse power horizontal return-flew Boiler; 30-horse power Engine, with belting and shafting all in good order; also 12 Color Mills, with frame and shafting; a first-class Burr Stone, White Lead Mill, Putty Mixer, Putty Chaser; three Color-Mixing Tubs, two White Lead Mixers, Steam Drying Pans, Bolting Machine, Wooden Tanks and Drainer; also, a large ¼-inch boiler-iron Kettle, 8 feet long by 4 feet high and deep, with lugs and flange, and fire-box and grate bars; also, CANMAKERS' TOOLS, consisting of Screw Press and Dies, Circular and Square Shears, Groovers, Double Seamers, Notching and Wiring Machine and small tools necessary for a first class can shop.

The above-named premises has a ground rent of $155 and no other encumbrance.

Terms (liberal) made known on day of sale.

MATTHEWS & KIRKLAND, Auctioneers.

For further information address or apply to WM. H. KING, 313 St. Paul st., Baltimore, Md.

U. S. VARNISH CO.

Cincinnati, - - Ohio.,

Manufacturers of

Fine Varnishes,

JAPANS &c., &c.

CORRESPONDENCE SOLICITED.

B. L. FAHNESTOCK'S VERMIFUGE

FOR EXPORT AND HOME TRADE.

B. S. FAHNESTOCK

SOLE PROPRIETOR,

Pittsburgh, Pa

Oil, Paint and Drug Reporter.

EMBRACING THE
DRUG, PAINT AND OIL TRADE, NEW YORK DRUG BULLETIN, NEW YORK DRUGGISTS' PRICE CURRENT, SOAP-MAKERS' JOURNAL, OIL AND PAINT REVIEW, and WEEKLY DRUG NEWS.

OIL, PAINT & DRUG PUBLISHING CO., Proprietors.

FRANKLIN H. TINKER, Treas. & Manager.
W. B. TEMPLETON, Secretary.

PUBLISHED EVERY WEDNESDAY at 72 William St., New York.

SUBSCRIPTION RATE.

One year, including postage.....$6.00.
If paid in advance.....$4.00.
To all foreign countries, including postage.....$6.00.

ADVERTISING RATES.

TERMS: PAYABLE QUARTERLY IN ADVANCE.
Less than one inch, 25 cents per Agate line each insertion.

1 inch, (14 lines) one insertion		$2.00
2 inches, one insertion		4.00
3 " " "		5.50
4 " " "		7.00
5 " " "		8.25
6 " " "		9.75
7 " (¼ column or ¼ page) one insertion		11.00
8 inches, one insertion		12.25
9 " " "		13.50
10 " " "		14.75
11 " " "		16.00
12 " " "		17.25
13 " " "		18.50
14 " 1 column or ½ page) one insertion		19.75

Subject to following Discounts.

	Per ct. from above rates.
On 2, 3 or 4 insertions	30
" 5 to 12 "	40
" 13 "	45
26 "	50
52 "	60

LARGER SPACES, NET.

	1 t.	2 t.	3 t.	4 t.	13 t.	26 t	52 t.
One page,	$50	$90.	$125.	$160.	$475.	$800	$1400
Half page,	30	54.	75.	95.	275.	450.	750

First page, $75 per inch per year, net. Last page $60 per inch per year, net. Other special positions at special prices.

JOHN F. RIDAY,
GENERAL MANAGER ADVERTISING DEP'T.

No order given to any agent or representative of this paper becomes binding until approved by the Company.

WEDNESDAY, MARCH 14, 1888.

LEADING TOPICS THIS WEEK.

Effects of a Storm. (Editorial.)
Importing Glass Workers. (Editorial.)
Copperas as a Fertilizer. (Editorial.)
Assignment of Mayer, Bros. & Co.
The Randall Tariff Bill.
The Ohio Oil Field.
A New Oil Pipe Line.
The Coca Plant in India.
The Cinchona Supply for 1888.
A Physician's View of Oleomargarine.
Brush Manufacturers and the Tariff.
Value of Waste Lye From Soap Works.
Increased Sale of Fertilizers.
Alcohol Restrictions in Germany.
Russian Petroleum in Sweden.
Danish Petroleum Bill.
Decomposition of Petroleum Naphtha.
Ammonia as a Refrigerating Agent.
German Methylated Spirits.
Cultivation of Cinchona in Java.
Cotton Oil as a Food Product.
The Lofoden Cod Fisheries.

For Complete Table of Contents see page 33.

WEEKLY REVIEW.

Money continues in abundance, and is readily obtainable on call at 2½@3 per cent on good collateral. Commercial paper is in good supply with a limited demand. We quote 60 to 90 days' indorsed bills receivable at 5 per cent.; first class four months' commission house names at 5@5¾, and good single names—jobbers—having four to six months to run at 5½@7. The following are the rates of exchange on New York: Savannah, buying ⅛ selling ¼ premium. Charleston, buying ⅛, selling ¼ premium. New Orleans commercial, 50@75c per $1,000 premium, bank, par. St. Louis, 50c per $1,000 premium. Chicago, par. Sterling exchange is quiet and steady.

Sterling, 60 days, nominal	$4 86 @4	86½
Sight, nominal	4 88 @4	88½
60 days, actual	4 85½@4	85½
Sight, actual	4 87½@4	87½
Cable Transfers	4 87½@4	88
Commercial 60 days	4 84½@4	84¾
Paris, 60 days	5 20 @5	19⅜
Sight	5 18¾@5	18⅛
com, 60 days	5 23/8@5	21¾
com, sight	5 20 @5	19⅜
Antwerp, 60 days	5 22½@5	21⅞
Swi 60 days	5 20⅝@5	20
Sight	5 18⅜@5	18¾
Reichsmarks (4) 60 days	95¼@95⅜	
(4) sight	95½@95⅝	
(4) com 60 days	95 @95⅛	
(4) com, sight	95¼@95⅜	
Guilders, 60 days	40 3-16@40¼	
Sight	40⅜@40 7-16	
com 60 days	40 1-16@40⅛	
com sight	40¼@40 5-16	
Copenhagen, Stockholm and Christiana, Krona, 60 days	26⅛@26 11-16	
sight	26⅛@26 15-16	

THE recovery of business from the prostration of the past two days will be rapid, provided transportation and telegraphic delays are not a serious drawback.

IT is seldom that natural causes check speculation on our commercial exchanges, but Monday's storm closed the doors of business with an emphasis that was extraordinary.

NOW that the blizzard has ceased to absorb all attention, Randall's tariff bill will prove the next sensation. Its provisions relating to drugs, chemicals and paints, will be found on another page.

BUSINESS men who reside out of town are still snow bound and cut off entirely from communication with the city. Since their departure for home on Saturday, clerks in many instances have assumed charge of affairs, but as no goods can be moved, the offices and warehouses have a holiday appearance.

THE EFFECTS OF A STORM.

The REPORTER is presented to its readers this week under difficulties of a most unusual kind. Within the memory of "the oldest inhabitant" New York has not been visited by a storm of such severity and attended with such demoralizing effects as that which broke over the city at midnight on Sunday and continued with unabated vigor for the next twenty-four hours. Traffic has been almost entirely suspended during the past two days, not a street car line being able to force a car through from one terminus to the other, while the elevated railroads and ferries have been operated with the utmost difficulty. The East River from the big bridge to the Battery is choked with ice, which at this writing people are using as a natural bridge between their homes in Brooklyn and their offices in New York. Those residing in the suburbs across the Hudson and above the Harlem have found themselves completely storm-bound, as it is impossible to run railroad trains through the heavy drifts which blockade the roads. Telegraph and telephone lines are down in all directions, making the service almost useless. Apart from the handling of local mails, there is no business doing at the Post Office, and the merchant who has forced his way down town, often having to walk most of the way, finds that he has nothing to do.

As some of the REPORTER'S staff are unable to get to the city from their suburban homes, the paper goes to press with less of the completeness which has always distinguished it, but whatever shortcomings we may have been forced to commit, our readers, we know, will overlook when the difficulties encountered are understood. The storm appears to have spent its force, and active preparations to repair the damage it has caused are being made on all sides. In a few days the city will have resumed its customary activity, and the inconveniences of the storm will be forgotten.

IMPORTED GLASSWORKERS.

At more or less frequent intervals the American manufactuers of glass are accused by the workers of attempting to replace their high priced help with cheaper imported labor. Such a story is now being circulated. It is based on a letter recently received by a Pittsburg workman from a brother in Belgium, stating that an alleged representative of a Pittsburg manufacturer is trying to engage workmen to come to this country. The Pittsburg glass workers are greatly agitated over this report and have taken active measures to prevent the consummation of the protect, but they will probably have their labor for their pains.

Under favorable conditions it would not be surprising if the American glass manufacturers, tiring of the exorbitant demands of their employes, should endeavor to cut down expenses by employing men who would be willing to work for reasonable wages, and that, failing to find such at home should extend their search to foreign countries. But the circumstances are not favorable. The American manufacturers know that the search in Europe could scarcely be a profitable one, for the glassworkers there have learned much from fellow workmen on this side of the ocean within the past few years, and their ideas of wages are scarcely less extravagant than those which prevail here. Granting that cheap workmen, willing to come here, might be found in Europe, the law prohibiting the importation of contract labor prevents the American employer from benefiting therefrom. While this law may be evaded in some cases, and probably is, the glass manufacturer would find an attempt at evasion hopeless, for the workers to use their own language, "have people watching at all the ports of the country, and as soon as the imported workmen land we will know it." And nobody will question that the American glass worker is wide awake to whatever affects his interests.

Though improbable, there may be something in the story, but, more likely, some sharper, with a knowledge of the glass business, has been trying to get money out of the Belgium workmen by promising them work in this country.

COPPERAS AS A FERTILIZER.

Considerable inquiry has been made recently concerning the fertilizing qualities of copperas, as favorable reports have come from France and these have prompted experiments here. Copperas has been recommended from abroad as a valuable dressing for different crops, and remarkable results of experiments made on the other side are shown, to convince the doubting American fertilizer manufacturers. It is claimed that copperas prevents mildew and a very weak solution destroys moss and the spores of mildew. An explanation of the favorable effect of copperas is, that it increases the power of the plant for assimilation; there is a large percentage of fiber and nitrogen, but the increased crops are not due to a supply of sulphuric acid by the copperas, as superphosphates containing an abundance of the acid proved to have less effect.

The Connecticut Agricultural Station report just received, cites one instance where copperas was used as an experiment in this country, and it resulted in an increased yield of 600 pounds of corn or twenty-two per cent from the employment of thirty two pounds of copperas per acre. The chemist of the Station concludes from this investigation and the evidence which comes from France, Japan and Germany, that experiments should be continued, although he does not believe that copperas will be found generally helpful. He points out that it will be injurious to plants when applied in too large quantities, but that it may be found of advantage on rich garden land that has had an abundance of other fertilizer materials for many years.

This is a subject which concerns all of the Agricultural Stations, and it is surprising that experiments have not been made on the ground allotted by each state for such purposes. So far, they have depended almost solely upon foreign sources for information instead of demonstrating in a practical way on their own territory whether copperas is a good material for crops or otherwise. It is time that such work was commenced so that the public could be enlightened upon the dark subject, and a channel opened for increased business in the article.

SEED-CLEANING INVENTIONS.

It is amusing to read in the Southern papers how the cotton oil industry is to be revolutionized by recent inventions for cleaning seed; how mechanical processes have been contrived for making millions out of one department, and how experienced and skilful men of the industry have been taught by erratic mechanics who have no knowledge of the business, but who manage to obtain a hearing by their monumental assurance and extraordinary claims which are easily dissipated by investigation.

The "woods have been full" of cotton seed patents ever since the industry was established, but notwithstanding the utter failure of many previous inventions, the field continues to be occupied by fresh aspirants for large royalties with their complicated, expensive and useless toys called cleaning machines. The adoption of these various processes or devices for an alleged improvement over methods in use, would entail great expense in controlling the patents and erecting large mills. But the chief objection is the damage done to seed, which is rendered unfit for storage or export by the hulls being broken, thus exposing the kernels. The inventors have entertained rather elevated views about the value of their patents, but the great fortunes anticipated as the fruits of their labor have yet to be realized. Many of the schemes have been retired to oblivion and no doubt others will follow, as the processes in operation at the South are working with entire satisfaction and no change is desired.

USEFUL CHEMICAL RESEARCHES.

It is generally supposed that the only mission of agricultural stations is to examine fertilizers for the benefit of farmers, but the Connecticut Station gives evidence of greater usefulness by having a correspondence bureau and giving particular attention to chemical researches for the benefit of the public. Inquiries addressed to the Board relative to treating bones with acid, value of waste lye from soap works, dissolving bone, and the percentage composition of a superphosphate made from bone, have been promptly answered and published in the Station reports. The subjects are treated with ability, as will be seen by reference to the articles on another page of this issue.

This new departure may not be received with favor by professional chemists because they are not called upon to give the advice for certain fixed fees, but the practice will certainly become popular among the masses and redound to the credit of the agricultural stations that devote some attention to this department. As some of the State institutions are in bad repute, it devolves upon the management to turn over a new leaf and make an effort to do something for the money expended. It would be well to follow the example of the Connecticut Station in addition to fertilizer experiments, and then the public would not be in haste to ask for an abolishment of the system. It is gratifying to note a disposition among the directors of these stations to extend their usefulness, but there are a few non-progressive organizations that require sharp criticism to make them move forward, and these are now under the watchful care of the National Commissioner of Agriculture.

TRADE ITEMS.

Soapstone paint is said to be an excellent rust preventive for iron surfaces.

Mr. H. R. Burk, of the Oil Seed Pressing Company, is confined to his home by an attack of gastric fever.

Secretary Bayard and the Chinese Minister are about to sign the new treaty between China and the United States.

At Baracoa, Cuba, March 6, the cocoanut oil factory belonging to Vladallet was destroyed by fire. The loss is $150,000.

Robert Barnes, dealer in paints, etc., at Palatka, Fla., has made an assignment to A. V. Mount. He has been in business several years

The office and warehouse of James E. Hyde, wholesale dealer in drugs at 86 Maiden Lane, were damaged by fire last week to the extent of $350.

Kriesman & Co.'s Glue Works at 216 Lake street, Chicago, were damaged by fire last Friday to the extent of about $5,000. The amount of insurance is unknown.

Meetings of the Association of Spirit Distillers, and of the Association of Starch Producers of Germany will be held on the 24th and 25th of this month, respectively.

Dr. Richard Steele, of Auburn, N. Y., died last week, aged ninety-three years. He went to Auburn in 1817 and established a drug store In 1872 he retired from business.

The representatives of the German salt works have once more met together in Halle, in order to discuss the long projected salt combination, but no agreement has been reached.

Announcement is made of the assignment of Ferdinand Seegar of 88 Murray St. He has been in business six years as a dealer in chemicals. The assets and liabilities are not stated.

The largest sheet of plate glass ever cast is being heard from again. It measures 11 ft 3 in x12 ft. 4 in. and was cast last Thursday at the Butler works. It is said to be a perfect plate of glass.

A sixteen pot flint glass house is to be erected at Fostoria, O., by a company composed of stock holders in several old concerns. The capital stock is $50,000 and it is expected to begin work by May 10th.

Paper manufacturers are desirous that the present duty on ultramarine should not be disturbed, and a petition to that effect is now receiving the signatures of paper makers as fast as the document can be presented to them.

Much anxiety is felt regarding the schooner Delhi, of which Capt. Charles F. Green of Saco is master. She sailed from the West Indies for Wilmington, N. C., Feb. 1, with a cargo of phosphate rock, and has not been heard from since.

James M. Walsh, a well-known druggist of Roxbury, Mass., was found dead in his store last Wednesday morning He was addicted to the opium habit and death is supposed to have resulted from an overdose taken with suicidal intent.

The well-known wintergreen plant is blessed, with an abundance of names, among them being checkerberry, boxberry, grouseberry, partridge berry, deerberry, spiceberry, tea berry, redberry, groundbeery, hillberry, mountain tea, redberry tea, and various other names.

The practical manner in which Gen. Bragg, the new United States Minister, has turned his attention to the study of the trade relations between Mexico and the United States has given rise to a report that negotiations will soon be reopened for a comprehensive commercial treaty between the two countries.

The Secretary of State last week transmitted to the House the documents relating to the exclusion of American hog products from France. They include nothing novel, except a recent communication from Minister McLane, in which he states that the Government is as firmly determined as ever in its policy, and that he sees no hope of a change.

Messrs. Vanhorne, Griffen & Co. announce that to meet the large demand for beat glass they have enlarged their works, and with increased facilities and improved methods, they are now prepared to bend glass of all kinds promptly and in the best manner. Orders may be sent to their New York office or to their works in Newark, N. J.

Mr. W. Hamilton Merritt, of Toronto, who has collected some valuable statistics regarding the mineral resources of the Dominion of Canada in 1887, places the production of crude petroleum at 768,333 barrels, the yield of phosphates at 21,733 tons, of asbestos at 4,500 tons, antimony ore at 174 tons, pyrites at 35,000, gypsom at 163,975 tons, salt 65,800 tons, plumbago 7,180 cwts. and barytes 3,000 tons.

Senator George, of Mississippi, declared last week that he was willing to terminate the hearings and take adverse action at once upon the Lard bill. He was convinced that it was simply a measure to crush the cottonseed oil interests out of existence for the benefit of other industries, and he knew that the people of several Southern States were unanimously and justly opposed to such legislation.

M. J. Revol, a pharmacist and analytical chemist, calls attention to the fraudulent addition of chloride of magnesium to glycerine, which seems now to be practised on a large scale in some parts of France. Once suspected the fraud is easily detected, first by the taste alone, and secondly by the usual tests for magnesium salts. The specimens examined contained 44 per cent of glycerine and 56 of a magnesium chloride solution of appropriate density.

The lead mines of Australia, says the London *Statist*, are proving to be much more productive than had been anticipated. The output has steadily increased, and is just now increasing very rapidly, and the ore is found to be rich in silver, though, of course, not nearly so rich as the famous American mines. One of the great shipping companies was asked this week to contract for the conveyance from Australia to England of no less than 600 tons a month of lead ore.

The liquor books of all the drug stores in Malden, Mass., were inspected by Chief of Police Richards and Assistant Chief Sullivan. It was discovered that one druggist kept no books at all, and that some of them were doing a big business. In one store the books showed that 61 sales had been made since March 1, and the lowest number of sales were seven. Some members of the board of aldermen are opposed to granting druggists' licenses, but there is at present a license majority in the board.

A meeting has just been held in Hamburg of the technical and commercial directors of the various home and foreign establishments belonging to the Dynamite Trust. The questions discussed principally concerned the interior organization of the undertaking, the simplification and economizing of business, export of the manufactures etc. The question of prices was not touched upon. It is understood that all the factories have attained very satisfactory financial results during the past business year.

A French patent purports to set out a novel combination for bleaching. A solution is made of twelve parts of chloride of lime and a quarter part of soda, in two hundred parts of water. After this mixture has stood twelve hours there is added a half part of glycerine. The inventor says that the glycerine improves the bleaching power of the mixture, prevents its acting in a corrosive manner upon fiber, and so operates that no lime is left on the tissues when washed, so that the usual treatment with acid is not necessary.—*Invention.*

The manufacture of coal-tar dyes in Germany has so largely increased during the past few years that about 80 per cent of these dyes are produced in German factories. It is much in the interest of German industry, which is in most cases based upon a sure pedestal of science, that perhaps in no country in the world is experimental chemistry so much studied as in Germany. The vast progress which has been made in the export of German aniline dyes is proved by the fact that in 1880 3,140,000 kg. were exported, and in 1886 5,700,000 kg.—*Kuhlow's Trade Review.*

Dr. G. W. Gesner, the chemist and metallurgist of this city, has put into practical operation a process invented by him, having for its object the rendering of cast iron pipe of all kinds impervious to the attacks of acids and all other corrosive agents, in addition to closing the pores which are found in most cast iron pipe; there is practically no rusting of cast iron submitted to this process, and no leakage of gases through them. Works have been erected in East Portchester, Conn., for treating iron, and Dr. Gesner is now designing similar works for Brooklyn.

Mr. F. F. Jacques, of a Chicago glass manufacturing company, made information before a public magistrate in Pittsburg last week charging Joseph F. Snyder, of that city, with false pretences. Mr. Jacques alleges in his complaint that Snyder engaged to send eight boys as apprentices for the glass works in Chicago, and that the firm advanced $64 for the boys' fare. On the arrival of the boys in Chicago they said they had paid their own fare. On these representations Snyder was arrested and had to give bail in $500 for appearance in court.

The *Papier Zeitung* says that the total output of soda of Germany has trebled during the last ten years, reaching the last year to 150,000 tons from twenty-four manufactories with exports, while ten years ago 40 per cent of its requirements were taken from abroad. The competition between the Leblanc and Solvay processes has reduced the price for 98 per cent calcined soda from 20 marks per 100 kilos in ten years to 8 marks. The improvements in the ammonia process have greatly reduced the use of ammonia of late years, and Solvay is now endeavoring to utilize the remaining chloride of calcium for the formation of chlorinated lime.

The city of London appears to be the one sweet spot on earth where drugs and chemicals are to be obtained in the most perfectly pure condition. While the city analyst goes on quarter after quarter discovering no adulteration in the few shillings' worth of drugs and chemicals which his inspectors purchase, we report almost monthly the sale of hundredweights and tons of sophisticated and often injurious substitutions of some of our most important drugs. Mincing Lane is within the city limits, and there is nothing that we know of in the sale of food and drugs act which render it legal to sell a ton of an adulterated drug but makes it penal to sell an ounce.—*Chemist and Druggist.*

Mr. Francis V. M. Hudson, superintendent of the Albany Aniline Works, is quoted as follows on the tariff bill by the correspondent of a daily paper: "The provisions of the bill so far as they affect our business are most satisfactory and beneficial. The tariff act of 1883 did us much harm, but if this bill becomes a law we look forward to increasing our business, making new colors, and probably increasing our force. The bill puts our raw materials on the free list, and thus enables us to compete with foreign manufacturers. My opinions on this subject, I can say with safety, are held by all those engaged in the business. In brief the bill is of the greatest aid to our business, because it removes an obstacle which legislation put in our way."

Mr. John Dobse, manager for Messrs. John W. Masury & Son has the heartfelt sympathy of the paint and varnish trade in the loss he has sustained by the death of his two children some six weeks ago, and then of his accomplished young wife who departed this life on the 8 inst. from an attack of pneumonia—his entire family taken away. Many friends and acquaintances attended the funeral services of his wife on Saturday last, to testify by their presence the sympathy they felt for him in this terrible bereavement. The Paint, Oil and Varnish Club could not take any official action in the case, but the fact that many officers and members were present is another evidence that these organizations are beneficial in drawing business men closer together in their sympathies, as well as strengthening their efforts in a commercial sense. It is to be hoped that Mr. John Dobse will rise above his afflictions, and struggle manfully to breast the storm that would seem sufficient to overwhelm any strong man.

PETROLEUM NOTES.

The test well which for some time has been drilling on the tube-works property, at McKeesport, is now being closely guarded and worked as a mystery.

Refining works have been erected at Santa Paula which produce from the California petroleum a kerosene for illuminating said to be equal in all respects to the Eastern oil.

The Oil Exchange at Oil City has offered $500 reward for the arrest and conviction of persons circulating false reports to affect the oil market. The Bradford Exchange added $1,000 to the reward.

The Philadelphia Company, which owns one of the big gas wells at Cochrans Mills, is said to have agents actively at work trying to secure more territory in that vicinity, especially since the Lewis Run Oil Company was formed.

Oil and gas operations are lively up the Monongahela Valley. The Lewis Run Oil Company are now ready for business. They have elected Thomas McCiees president, J. M. Snoaf secretary, and A. W. Bedell treasurer. The derrick is now going up at the site of the proposed well, on Lewis run, near Elizabeth, and the drill will probably be in operation within a few days.

The use of gasoline as a fuel for small motors is taken advantage of in a recent invention of a small engine to be attached to bicycles and tricycles. With this it is claimed a maximum speed of ten miles an hour can be attained upon level ground. Sufficient fuel and water can be carried for a tour of twenty-five miles, and the weight of the whole plant, with tanks filled, is but 185 pounds.

On Tuesday of last week the dynamite magazine five miles northeast of Washington, Ind., exploded. David C. Hampton was preparing some nitro-glycerine to shoot a gas well at Hagerstown, and it is supposed that he dropped a box of nitro-glycerine. His body was blown to atoms, as were also a horse and spring wagon standing near, and a hole was made in the earth twenty feet deep and fifty feet across. Large trees standing near were blown to pieces, fragments being blown more than one-fourth of a mile.

The death of S. V. Harkness, one of the founders of the Standard Oil Company, was announced last week. His death occurred on board his yacht Twilight last Wednesday, about twenty-five miles off the Charlotte Harbor coast. He was ill only about forty five minutes. No one was on board the vessel save himself and the crew, and the men became almost panic stricken at his sudden death. Restoratives were freely applied and everything possible was done to revive him, but in vain. Land was made at once and on arriving at Punta Gorda the remains were forwarded to Cleveland, his late home.

CHICAGO LETTER.

Special correspondence of the REPORTER.

CHICAGO, Mar. 10, 1888.

So far as concerns demand, the linseed oil market has exhibited a slight improvement during the past few days Still there appears to be no inquiry for round lots, and brokers are comparatively well pleased to earn commissions on sales of smaller quantities. Direct sales from the mills to consumers still continue but the transactions are chiefly confined to small lots required for immediate use. The spring trade has not yet opened and no crusher can be heard deploring the tardiness of its approach. The truth is, as I have been credibly informed, that some of the mills between the Alleghenies and Lake Michigan have already crushed their entire stock of seed, and that an inventory of the quantity of oil on hand is by no means gratifying to the proprietors. From a careful survey of the local situation (which is typical of the entire west) I am disposed to adhere to my original prediction that before the normal spring demand shall have been supplied, linseed oil will be scarce in western markets and its fortunate (but possibly few) holders will have abundant cause for self-congratulation.

As to offerings of western oil in the east, such offerings certainly do not come from here. Whether or not some of the crushers between the Mississippi and the sources of the Ohio may have sought an eastern market for a very limited product, is a conundrum which receives various conjectural answers here. One thing, however, may be set down as certain: Chicago crushers don't propose to adopt that method of committing financial "hari-kari."

Apropos of the alleged offering of Western oil in the East may be mentioned a fact which has proved more or less interesting to Chicago producers and consumers during the week. The "border land" has once more been heard from. "Ishmail" has again raised his hand, but if one might accept the interpretation commonly placed upon his action here, he don't "mean business" this time. Dropping metaphor and descending to cold facts—oil manufactured not far from the head waters of Lake Erie has been offered here this week for April delivery, in lots to suit purchasers, at current "spot" rates. The offers, however, have fallen very flat. In the first place, they were made, mainly, to parties who are generally supposed to be fairly well supplied, and who, consequently, would naturally be somewhat indisposed to accept them. They were also carefully "timed," being submitted at a date—"between wind and water"—when jobbers were naturally timorous of placing orders. Business men are proverbially prone to harsh judgments, and there are not wanting those who do not hesitate to say that in the first place it is doubtful whether the parties offering are carrying any great quantity of oil for which they seek a market; and that, in the second place, if such parties cherished a desire to break the oil market at this point with a view to its reaction on the price of seed (supposing them to be short of seed) these are the tactics which they would have naturally adopted.

I hear of a new and distinct cause for the diminution of inquiry—the same being advanced by crushers. The Mills bill loome up as the bugaboo. Buyers theorize thus: If both flaxseed and linseed oil are to be admitted free of duty, prices will fall; and while no change can be legally made prior to July, every day which brings nearer the ultimate result tends to lower the price of oil. This argument stripped of all political expressions approaching rhetorical hyperbole, amounts practically to this: Because a measure which may or may not be adopted has been introduced into the national legislature, and because among other provisions this measure proposes to admit both flaxseed and linseed oil free of duty, therefore notwithstanding the fact that the passage of the bill is doubtful and that under no circumstances could buyers avail themselves of any possible advantage arising under its provisions until after the expiration of the building season, consumers will patiently await a fall in the markket. The absurdity of such an attitude is most clearly shown by an analysis of the probable effects of the provisions of the proposed statute. That the free importation of Russian and Calcutta seed would practically paralyze the cultivation of flax in this country can hardly be disputed. Neither can it be doubted that this would cut off just about one-third of the world's supply. Granting these premises in the case of such a staple as linseed oil, it is easy to see how rapidly prices would be advanced. With an average crop of seed, American crushers absorb the entire average crop of American flaxseed. Eliminate this factor in the problem, and let us suppose that but two-thirds of the raw material is produced, what will be the effect on prices? This is the conundrum propounded by producers, and it is one which consumers find hard to answer.

As regards Western cake, there can be little question that the greater proportion of it seeks a foreign market. While the home demand continues fairly active, it is not sufficient to absorb the output. The surplus must be disposed of somewhere, and a languid demand in the East affords no temptation to crushers. Hence with cheap ocean freights $20@20 50 per ton in Chicago, offered by foreign consumers, is, to say the least, attractive.

FLAXSEED.

The week opened with 193,071 bushels of seed in public elevators—an increase of 3,632 bushels over the official figures of one week previous, when the number was 189,439. On the corresponding date of last year, the amount of flax in sight was more than double, there having been 271,845 bushels in public elevators and 132,941 bushels afloat, aggregating 404,786 bushels in Chicago; the figures given above show a decrease of 211,715 bushels as compared with those of the second Saturday in March, 1887. When a comparison is drawn between the movement of seed during the week just closed and the corresponding week las

year, a falling off is plainly shown. In 1887, the receipts were 53,050 bushels, this week they have been 30,163, a decrease of 12,877; as regards shipments, a decline of 21,099 bushels is to be noted, the figures for the corresponding weeks of the respective years being: 1887, 43,924 and 1888, 22,825 bushels. As compared with last week, there has been a decline of 3,822 bushels in receipts and 731 bushels in shipments. The week's official inspection shows 56 cars to have been "inspected in" (of which 27 passed as No. 1), as against 46 cars for last week.

Considered as a whole, the market for the week may be said to have been comparatively destitute of interesting features. While it has been unquestionably firm, it has also been comparatively lifeless. The latter statement is perhaps best confirmed by a reference to the fact that reported sales on 'Change during the last six days have amounted to but 36 cars of cash seed, while of May delivery the number of bushels which have changed hands has been absolutely none.

On Monday light sales of No. 1 cash were effected at $1 45, while rejected and "no grade" alike sold at $1 40. A feature of that day's trading worthy of special mention is that of seed not graded 22 cars were sold, while of No. 1 only six cars, and of rejected but one car changed hands. For May, $1 47 was bid and $1 48 asked. On Tuesday, prices remained nominally the same, as regards both spot and May delivery. A few cars of the former (No. 1) were sold at $1 45, but no transactions in May were reported. Rejected was nominal at $1 40, and some very choice seed of this description was offered at $1 42 without takers. On Wednesday, the market remained unchanged, unless the sale of a few cars of rather damp rejected seed at a shade below the quotations of the preceding day may be considered worth mentioning. No material change occurred on either Thursday or Friday and the market closed at Monday's figures—$1 45.

Apart from the features of the seed market, to which reference has been already made, one other may be mentioned—a latent sensitiveness. Its steadiness may be said to be due to the maintenance of normal relations between receipts and inquiry. Had the former been larger, prices would have unquestionably fallen; if, on the other hand, the demand had been more brisk—and the receipts continued light—the week would have closed with higher quotations. As it was, buyers have been as numerous as sellers, but there has been an utter lack of competition among the former. Precisely why the speculative market has been so sedulously neglected, remains a mystery to all but the initiated.

OILS.

There cannot be said to have been any improvement in the market in cotton oil during the week. Buyers are comparatively few, most of the deliveries effected being made on pre-existing contracts. Some of the most sanguine observers are solacing themselves in the present era of dullness by predicting a reaction. To an outsider such prognostications resemble "whistling against the wind." No one seems able to give any reason for such an expectation other than that prices at present are lower than they should be. The more reasonable expectation (and that which is most generally entertained) is that pending the prospective—and altogether uncertain—action by Congress on the lard question, there need be anticipated neither an improvement in demand nor an advance in prices.

In lard oil the market remains at about 60 cents. Compounders are still the principal buyers, and the normal relation between production and consumption is well sustained. Of speculative offerings, as of speculativ demand, one hears nothing. Had lard manifested any unusual activity, or displayed any tendency toward fluctuation, the aspect of affairs might have been different. Uncertainty as to the course of legislation, however, has cast a long shadow over the lard market, and, sympathetically, lard oil remains at the same figures as those which ruled a week ago. How far the present agitation in Congress has affected the former is perhaps best shown by a comparison of the stocks of lard in sight to-day, one week ago, and on the corresponding date of last year. To-day's visible supply is 61,000 tierces, being 1,000 less than that of last Saturday, and 36,000 tierces less than that of one year ago.

Strange to say, the local market in oleo has rather improved during the week. Two operative causes may be assigned: (1) the relative difference in price between oilo and neutral, which is decidedly in favor of the former; and (2) the falling off in exportation. For the existence of the first causes two reasons (again) may be assigned: First, the decline in slaughtering, and, secondly, the doubt as to what legislation will be ultimately adopted as to "pure lard." The decline in exports is readily accounted for. Private cablegrams received here are to the effect that the total sales of American oilo in Holland for the week have not exceeded 1,700 tierces, and that "inferior grades" are bringing, relatively, higher prices than either "prime" or "fancy" brands. In view of these facts, and of the circumstance that stocks abroad are "piling up," melters are chary of exporting, and are once more looking towards the home market.

PAINTS.

Business among jobbers in paints has not materially improved during the week. Country buyers are certainly not buying in anticipation of prospective wants, and the difficulties and uncertainties attendant upon the delivery of freight at various western points has in no degree stimulated the placing of orders. The question of prices remains the main bone of contention, however, between sellers and buyers, but, to judge from present indications, there is likely to be but one issue, and that the one predicted a fortnight ago. Paris green, so far as its future is concerned, continues an object of interest, and one hears some complaint on the part of consumptive inquirers that it is difficult to buy on any basis other than a schedule of prices to be adopted in April, the terms of which if known to any but manufacturers are certainly not confided to purchasers, who are forced to buy in the dark. That there is some disappointment among manufacturers and jobbers at the tardiness with which the spring trade is opening is more than probable, but it is difficult to find any prominent member of the trade who is disposed to take a gloomy view of the outlook; in the opinion of wholesalers, the demand is only deferred—not abandoned.

The past week has witnessed the incorporation of a new company for the manufacture of paints, oils, etc. It is to be known as the Currey Manufacturing Company of Chicago; the capital stock has been fixed at $25,000, and the incorporators are J. Seymour Currey, Henry R. Post and Arthur L. Currey.

DRUGS.

The drug market remains quiet. Opium and quinine have manifested no new strength. As regards the latter, local jobbers think that they can detect a slight tendency toward an effort to advance prices by an artificial stimulation of inquiry; but the agency employed partakes somewhat of the nature of 'strictly confidential" offerings, the immediate effect has not been seen in any noteworthy eagerness to buy on the part of any one in particular. On the whole, prices remain substantially unchanged. Disinfectants have not weakened, and a few of the minor articles on the list—notably ipecac—are a trifle higher. The volume of business for the week has not materially varied from that of the week preceding, although some close observers incline to think that within the last few days they have been able to detect the adverse influence upon orders of the railroad strikes, present and impending. Buyers in the Northwest are slightly timorous of making purchases, in view of the uncertainty of the date when the latter may reach their point of destination. In consequence, there is discernible a slight undercurrent of anxiety among dealers, which time may or may not ultimately show to have been well founded.

A new concern for the manufacture of patent medicines has been formed here during the week, under the name of the Western Drug Specialties Company. The capital stock has been fixed at $3,000, and the incorporators are Frank C. Newell, Joseph D. Kind and Thomas C. King.

The wholesale drug trade of Chicago lost, on Tuesday of this week, one of its oldest and most respected members, through the death of Robert Morrison, president of the Morrison-Plummer Company. At the time of his demise he was forty-five years of age. He was born in Richmond, Ind., at which place he started in the drug business shortly after his graduation from college, the firm name being Plummer, Morrison & Co. In 1874 the two senior members of the firm came to this city and entered the firm of E. Burnham & Sons, as silent partners. On the death of Mr. E. Burnham, in 1876, Messrs. Morrison and Plummer bought out the other members of the firm, and the business was carried on under the name of Morrison, Plummer & Co. When the concern determined to incorporate, Mr. Morrison was made president. His charities, while unostentatious, were generous, and he took a deep interest in every well-directed scheme to aid and reform discharged convicts.

A DECISION AGAINST WHOLESALE IOWA DRUGGISTS.

Frequent reference was made in these letters some months ago to the bitter legal contest over the seizure of $8,000 worth of liquors consigned to Huribut, Hess & Co., wholesale druggists of Des Moines, Iowa. A car load on arriving at that point was seized by constables before unloading, on a warrant granted on affidavits setting forth that it was the intention of the consignees to sell the liquor for illegal uses. A justice's court condemned the goods and ordered their destruction. On the trial, two instances of sales to habitual drunkards were specified. The defendants appealed, on the ground that the certificate of buyers that they wished the liquor for legal purposes excused them from further inquiry. The Iowa District Court reversed the decision and ordered the return of the liquor. An appeal was taken to the Supreme Court of the State, and a decision adverse to the drug house has just been rendered. That tribunal holds that Huribut, Hess & Co. should have satisfied themselves, by extraneous proof, that any individual buyer was a proper person to whom to sell, no matter what application or other legal form may have been signed. The liquor in question is therefore condemned.

CALUMET.

MISCELLANEOUS.

The Randall Tariff Bill.

IT MAKES ALCOHOL USED INDUSTRIALLY FREE.

Mr. Randall has completed his tariff bill and introduced it in the House on Monday. In explanation of its terms and scope he makes the following statement:

The bill repeals the entire internal tax on tobacco and on fruit brandies. It also repeals the license tax on wholesale and retail liquor dealers, leaving these, as recommended by Jefferson, so that "the State authorities might adopt them." It makes alcohol used in the arts free, and reduces the tax on whisky to 50 cents per gallon.

The bill, he says, is a careful and complete revision of the whole tariff system. It carries to the free list a large number of articles now paying duties, and which enter into consumption, either as raw material or otherwise, and in the production of which there is no injurious competition between this and other countries.

In the revision of the tariff, he says, the aim has been intelligently to supply consistent principles to all branches of industry, and in so doing, our industrial system has been considered as a whole, and differing from other industrial systems in the important fact that the labor in this country received a larger share of the annual products of labor and capital combined than in any other country. This important advantage to the labor interests of the United States the bill aims to preserve throughout, while at the same time, "in fairness to all interests," as stated on the Chicago platform, "to reduce and equalize" the duties on imports. The principles applied to the revision of the tariff in this bill are: First, that the difference in cost of producing commodities in this and other countries, where there is no climatic or other natural cause why they cannot be produced abundantly in this country, has been studied and everywhere adhered to as the cardinal principle to be enforced in any revision of the tariff. In such a scheme all industries, of course, should stand on an equal footing, and in no instance should the powers of Government be used to elevate one above another. In other words, our industrial system must be considered as a whole, in which all who participate in it share its benefits whether they are engaged in one industry or in another.

One principle of great importance, continues Mr. Randall, has been kept constantly in view, and that is that the line which marks the difference in cost of producing commodities here and abroad—in other words, the line of fair competition—is always and necessarily above the point of maximum revenue. Consequently to reduce the duties on any commodity below the line of difference in cost, which, as stated, is the line of even competition, until the line of maximum revenue is passed, necessarily increases the revenues. On the contrary, to raise duties from the line of maximum revenue by lessening importations reduces the revenues. This principle has been kept in view throughout the bill in the adjustment of duties.

Where importations are light and increasing, he says, it may consistently be assumed that the duties are quite high enough, and in many cases may be safely reduced; and in case the industry is of such a nature as to permit trusts and combinations of any kind to raise prices above the level of prices or profits in other industries, then it becomes important that the cost line should be closely adhered to, and that has been the aim in this bill in the industries where trusts or combinations are supposed to have such power. It is less important, of course, to apply this rule rigidly where prices are regulated through free competition. In such case, under well-known economic principles, the tendency is always to a general level in profits, wages and prices in any industrial system. In working out the details of the bill under these principles, the aim has been to pare closely and adjust carefully the different schedules, with the object always in view to lower duties wherever possible and reduce the revenues, being careful at the same time to hurt no established industry.

The estimated reductions under this bill, Mr. Randall thinks, will be: On internal taxation repealed, $70,000,000; on tariff schedules, $25,000,000.

Some provisions of the bill, which is fully twice as long as the Mills bill, and relates to many more subjects, are as follows:

Sec 3. That all laws and parts of laws imposing an internal-revenue tax upon spirits distilled from apples, peaches or other fruits are hereby repealed, to take effect on July 1, 1888. Provided, that no person or persons shall be allowed to manufacture or distill spirits partly from fruits and partly from grain or other substances without the payment of the tax required by law upon the making or manufacture of spirits distilled from grain; and any person violating the provisions of this section shall be fined not more than $500 or imprisoned not more than one year, or both, at the discretion of the Court. Provided further, that upon all unbroken packages, kegs or barrels of such fruit spirits there shall be a drawback or rebate in favor of the distiller, dealer or other owner of such spirits to the full amount of the tax paid thereon, but the same shall not apply in any case where the claim has not been presented within ninety days following the date when such repeal shall take effect, and no claim shall be allowed for a less amount than $5.

Sec. 5. That all clauses of section 3,244 of the Revised Statutes and all laws amendatory thereof, and all other laws which impose any special taxes upon manufacturers of stills, wholesale and retail liquor dealers and wholesale and retail dealers in malt liquors, are hereby repealed, to take effect on July 1, 1888. Provided, that there shall be allowed a drawback or rebate for the amount of such special taxes as shall have been paid for so much of the current year as will not expire until after the date of such repeal; but the same shall not apply in any case where the claim is less than $5 or has not been ascertained or presented within ninety days following the date of the repeal.

Sec. 6. That the Secretary of the Treasury shall grant permission to any firm, individual or corporation to withdraw from bond alcohol, or any spirits containing alcohol, subject to internal revenue tax in specified quantities of not less than three hundred proof gallons without the payment of the internal revenue tax on the same, or on the spirits from which it may have been distilled for the sole purpose of use in such industrial pursuits as shall be specified in the permit issued by the Secretary of the Treasury under such regulations and requirements as to stamps, bonds and other security and safeguards, by methylation or otherwise, as shall be prescribed by the commissioner of Internal Revenue, with the approval of the Secretary of the Treasury. Provided, that any person who shall sell, use, or wilfully permit the use of spirits withdrawn under this act for any other purpose than that specified herein shall, for each offense, be fined not more than 5,000, or be imprisoned for not more than two years, or both, at the discretion of the Court. And provided further, that any violation of the rules and regulations made by the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury in conformity with this act, shall be punished by a fine of not less than $50 nor more than $100 for each offense.

Sec. 8. That from and after July 1, 1888, in lieu of the tax of 90 cents a gallon on distilled spirits now imposed by law, the tax shall be 50 cents a gallon, provided that on the distilled spirits contained in all original unbroken casks or packages which are properly stamped, and upon which an internal revenue tax of 90 cents a gallon has been paid, a rebate of 40 cents a gallon shall be paid out of any money in the treasury not otherwise appropriated, under such regulations as the Commissioner of the Internal Revenue, with the approval of the Secretary of the Treasury, may prescribe; provided further, that no claim for rebate under this section shall be paid unless presented within ninety days from the date this act takes effect.

CHEMICALS AND THEIR COMPOUNDS.

The bill covers chemicals and their compounds. The most important changes in this section are as follows: Alcoholic perfumery, $2 per gallon and 25 per cent ad valorem, now $3 and 50 per cent. Borax, refined, 3 cents per pound, now 5 cents. Cement, Rowan, Portland and other hydraulic cements, 6 cents per hundred pounds, in packages; other cements, 20 per cent ad valorem. All are now uniform at 20 per cent ad valorem. Chalk, prepared, 1 cent per pound; all others 20 per cent ad valorem, now 25 per cent. Blue vitriol, 2 cents per pound, now 3 cents. Chloroform, 30 cents per pound, now 50 cents. Medical essences, tinctures, &c., 30 cents per pound, now 50 cents. Camphor, 4 cents per pound, now 5 cents. Collodion, 30 cents per pound, now 50 cents. Dyes, coal tar, 10 cents per pound and 15 per cent ad valorem, now 35 per cent ad valorem. Ether, sulphuric and nitric acids, 30 cents per pound; other kinds 75 cents, now ranging from 50 cents to $1. Logwood extracts, 1 cent per pound, now 10 per cent ad valorem. Gelatine, glue, &c., 20 per cent ad valorem, now 30. Glycerine unrefined, 1¼ cents per pound; refined, 4 cents, now 2 and 5 cents respectively. Indigo, extracts, ¾ of a cent per pound; carmine, 10 cent, now uniform at 10 per cent. ad valorem. Linseed oil, 20 cents; cottonseed oil, 15 cents per gallon, now 25 cents. Castor oil, 40 cents per gallon, now 60 cents. Opium, extracts and tinctures, unchanged at 40 per cent ad valorem. Plaster of Paris, ground, $1 50 per ton. Potash bicarbonate, 1¼ cents per pound, now 1½ cents. Soap, castile, 1¼ cents per pound; toilet, 15 cents; not enumerated, 30 per cent ad valorem, now 20 per cent ad valorem and 15 cents. Soda bicarbonate, 1¼ cents per pound, now 1½ cents. Turpentine, spirits, 15 cents, now 20 cents per gallon. Varnishes, spirit, 65 cents per gallon and 35 per cent ad valorem; all others 50 cents per gallon and 25 per cent ad valorem, now $1, 30 and 40 per cent ad valorem, respectively.

Gun powder, valued at 20 cents per pound, 5 cents; above 20 cents, 8 cents per pound, now 6 and 10 cents.

Matches 10 cents per gross for boxes containing not more than 100 matches, and when otherwise imported 1 cent per 1,000 matches (now 35 per cent. ad valorem).

Quicksilver, 5 cents per pound (now 10 per cent. ad valorem)

Lead ore and dross, 1¼ cents (now 1½); pigs, bars and lead for remanufacture, 1¾ cents sheets, pipes and shot, 2½ cents (now 2 and cents, respectively).

THE FREE LIST.

Section 10. That on and after July 1, 1888, the

following articles mentioned in this section, when imported, shall be exempt from duty:

Drugs and Medicines.—Acids, arsenic, arsenous, carbolic, dichlorpalephalic, hydrocarbolic hydrochloric or muriatic, hydrofluroic, nitric, oxalic, phosphoric, prussic, phlethalic, silicic, salicylic, sulphuric and sulphurous. Aconite, Albumen. Alizarine, natural or artificial. Amber, unmanufactured, or crude gum. Ambergris. Aniline salts or hydrochlorate of aniline.

Annatto, roucon, rocoa, or orleans, and all extracts of. Antimony ore, crude sulphide of. Apatite. Argal, or argol, of crude tartar. Arrowroot, raw or unmanufactured. Arsenic and sulphide of, or orpiment. Arseniate of aniline. Articles in a crude state used in dyeing or tanning not specially enumerated or provided for in this act. Articles specially imported for the use of the United States, provided that the price of the same did not include the duty.

Articles, the growth, produce and manufacture of the United States, when returned after having been exported, without having been advanced in value or improved in condition by any process of manufacture or other means. Casks, barrels, carboys, bags and other vessels, of American manufacture, exported filled with American products or exported empty and returned filled with foreign products, including shooks when returned as barrels or boxes; but proof of the identity of such articles shall be made under general regulations to be prescribed by the Secretary of the Treasury; and if any of such articles are subject to internal tax at the time of exportation, such tax shall be proved to have been paid before exportation and not refunded; provided that this clause shall not include any article upon which an allowance of drawback has been made, the re-importation of which is hereby prohibited except upon payment of duties equal to the drawbacks allowed.

Asbestos, unmanufactured. Ashes, wood and lye of and beet root ashes. Asphaltum and bitumen, crude. Assafœtida.

Barks, etc.—Balm of Gilead. Barks, cinchona or other, from which quinine may be extracted. Baryta, carbonate or witherite. Baryta, sulphate of, or barytes, unmanufactured. Bauxite, or beauxite, and beeswax.

Borate of lime; borax, crude; brazil paste, bristles, raw or unmanufactured; bromine; burgundy pitch.

Cadmium; calamine, camphor, crude; castor or castoreum; cassia, cassia vera and cassia buds, unground; cerium; chalk, unmanufactured; charcoal; cinnamon, and chips of, unground; civet, crude; clays or earths, unwrought or unmanufactured, not otherwise specially provided for in this act; cloves and clove stems, unground.

Coal tar, and products and preparations of, not dyes or colors known as anthracine, benzene, benzole, cumidine, cymidine, dead-oil, naphtha, napathol, naphthaline, naphthylimine, pitch, resorcine, toluidine and xylidine; cobalt, as metallic arsenic and cobalt ore; cocculus indicus; cochineal; cocoa, or cacao, crude and fiber, leaves and shells of.

Corkwood or cork bark, unmanufactured; cryolite, or kyrolith; cudbear; cutch; cuttlefish bone; divi divi; dragon's blood.

Drugs, barks, beans, berries, balsams, buds, bulbs and bulbous roots and excrescences, such as nutgalls, fruits, flowers, dried fibers and dried insects; grains, gums and gum resin; herbs, leaves, lichens, mosses, nuts, roots and stems; spices, vegetables, seeds, aromatic and seeds of morbid growth; weeds and woods used expressly for dyeing; any of the foregoing which are not edible and are in a crude state and not advanced in value or condition by refining or grinding or by other process of manufacture, and not specially enumerated or provided for in this act.

Litmus, prepared or not prepared; gambier; ginger-root, unground, and not preserved or candied.

Glass, broken pieces, and old glass, which cannot be cut for use, and fit only to be remanufactured; glass plates or disks, rough-cut and unwrought, for use in the manufacture of optical instruments.

Grease and oils, such as are commonly used in soap making, or in wire-drawing, or for stuffing or dressing leather and as are fit only for such uses, not specially enumerated or provided in this act; guano, manures and all substances expressly used for manure.

Indigo. Iodine, crude, or not more than 85 per centum chemically pure. Ipecac. Iridium. Kelp, kieserite, kyanite or cyanite, and kainit. Lac-dye, crude, seed, button, stick and shell, lac spirits, lactarine, lemon-juice, lime-juice and sour orange-juice, licorice root, unground.

Lime, citrate of lime, chlorote of, or bleaching powder, mace madder and munjeet, or Indian madder, ground or prepared, and all extracts of, magnesite or native mineral carbonate of magnesia, magnesium, manganese oxide and ore of, manna, mica and mica waste.

Mineral waters, all not otherwise specially provided for in this act.

Minerals, crude or not advanced in value or condition by refining or grinding, or by other process of manufacture, not specially enumerated or provided for in this act. Moss, seaweeds and similar vegetable substances, crude or unmanufactured, not otherwise specially provided for in this act. Musk, crude in natural pods. Myrobolans.

Nutmegs. Nuts, cocoa, palm nut kernels. Nux vomica.

Oil cake.

Oils.—Almond, amber, crude and rectified; ambergris, anise or aniseed, aniline, aspic or spike-lavender, bergamot, cajeput, caraway, cassia and cinnamon, cedrat, chamomile, citronella or lemongrass, civet, fennel, jasmine or jasimine, juglandium, juniper, lavender, lemon, limes, mace, neroli or orange flower, orange, attar of roses, palm and cocoanut, poppy, rosemary or anthoss, sesame or sesamum, seed or bean; thyme or origanum, red or white; valerian. Spermaceti, whale and other fish oils of American fisheries and all other articles the produce of such fisheries.

Opium.—Crude or unmanufactured, and not adulterated, containing 9 per cent. and over of morphia; orange and lemon peet, not preserved, candied or otherwise prepared; orchil, or orchil liquid made from the archilla weed.

Phosphates, crude or native; pimento, unground; retorts and other apparatus, vessels and parts thereof composed of platinum, for chemical uses; plumbago, potash, crude, carbonate of, or "black salts," or fused; caustic, or hydrate of, not including refined, in sticks or rolls; nitrate of, or saltpeter, crude; sulphate of, crude or unrefined, chlorate of and muriate of; pumice.

Quills, prepared or unprepared, but not made up into complete articles; quinia, sulphate of, and all alkaloids or salts of cinchona bark.

Saffron and safflower and extract of, and saffron cake, sago, crude, and sago flour, not in condition suitable for use as starch; salacine.

Seeds, namely: Anise, canary, caraway, cardamon, coriander, cotton, cummin, fennel, fenugreek, hoarhound; mangelwurzel, mustard, poppy, St Johns bread or bean.

Soda, nitrate of or cubic nitrate; sodium; sponges; spunk.

Pumice stone, rotten stone and sand, crude or manufactured. Storax, or styrax, Strontia, oxide of, and protoxide of strontia, and strontianite, or mineral carbonite of strontia. Sugar of milk. Sulphur, iac or precipitated, and sulphur or brimstone, not specially enumerated or provided for in this act.

Tallow, tamarinds, tapioca, cassava or cascada, provided the same is not for use as starch; tar and pitch of wood; terra alba.

Tonquin, tonqua or tonka beans: tripoli, turmeric, Venice turpentine.

Uranium, oxide and salts of.

Vaccine virus, valonia, verdigris, or subacetate of copper.

Wafers, unmedicated; wax, vegetable or mineral.

Sec. 15. There shall be levied, collected and paid on the importation of all raw or unmanufactured article not enumerated or provided for in this act a duty of 10 per cent. ad valorem, and on all articles manufactured, in whole or in part, not enumerated or provided for in this act, a duty of 20 per cent. ad valorem.

Sections 21 and 22 prohibit the importation of foreign-made articles stamped or marked to simulate or represent articles of domestic production. Section 23 and 24 make it unlawful to import merchandise in any but American vessels, or the vessels of the country of which such merchandise is the product, except in cases provided for by treaty, but it is declared that this shall not apply to countries which do not maintain similar prohibitions against vessels of the United States. Section 25 imposes a duty equal to the revenue tax upon reimported articles of domestic production, such articles not having already paid the internal tax. Section 26 imposes a discriminating duty of 10 per cent. ad valorem on all importations in other than United States vessels excepting where otherwise provided by treaty or act of Congress.

Section 27 prohibits the importations of opium containing less than 9 per cent. of morphia and of opium prepared for smoking, and provides for the seizure and distruction of opium of either kind unless the claimant thereto shall show that the same was lawfully imported, or was prepared from opium lawfully imported.

Section 28 provides that unenumerated articles similar in material or in the use to which they may be applied to articles chargeable with duty shall pay a like duty, and unenumerated articles resembling two or more enumerated articles shall pay the duty levied on the highest.

Section 29 declares that advalorem duties shall be based upon the wholesale price of the merchandise in the principal markets of the country of export, including the value of the covering and charges incident to the packing.

Section 34 declares that all importations shall be deemed the property of the person to whom they are addressed, but the holder of a bill of lading consigned to order and properly indorsed shall be deemed the consignee.

Section 35 provides for a drawback on exported articles equal to the duty paid on the material of which they are made.

Section 36 authorizes a purchaser, consignee or agent at the time when he shall verify his entry and not afterwards to make such addition to the cost or value given in the invoice as in his opinion will raise the merchandise to the actual market value at the period of exportation; directs the collector to appraise such merchandise; and if the appraised value exceeds by 10 per cent. the entered value, then, in addition to the duties imposed by law, there shall be levied a 20 per cent. ad valorem duty on such appraised value. Section 37 authorizes the withdrawal for consumption of goods in bond within three years of importation upon payment of duty. Section 38 requires that invoices shall be produced to the consul of the district whence the importation is made, and shall bear the declaration of purchaser or manufacturer that the invoice is in all respects correct and true and that no discounts, bounties or drawbacks are contained in the invoice. Section 39 makes the decision of the collector or naval officer as to the rate of duty final unless notice of dissatisfaction be given in writing within ten days, and also unless appeal be made to the secretary within thirty days.

Section 41 requires that all suits permitted by any law of the United States to be brought against a collector to recover duties shall be begun only in the Circuit Court of the United States. Section 42 makes a permanent indefinite appropriation for the repayment of over paid or illegally exacted duties, with interest not exceeding 4 per cent (excepting judgments in "charges and commission" suits) and directs the Secretary to make such repayments. Section 43 prevents any allowance for any merchandise, but permits the importer to abandon the same to the Government. Sections 44, 45 and 46 fix penalties of fine and imprisonment for bribery, accepting bribes or smuggling. Section 47 provides that merchannise in bond on the day that this act takes effect shall be subject to no other duties than those imposed thereby, and authorizes a refund of the difference if greater duties have already been paid on such merchandise.

Cinchona Supply for 1888.

PROBABLE SHIPMENTS OF CEYLON AND JAVA BARKS.

Mr. James Sinclair in a communication to the Ceylon *Observer* gives some interesting figures regarding the shipments of cinchona barks, from which he draws certain deductions which have a special bearing upon the future of quinine. The comparative table of shipments of bark by the Ceylon Government Railway, which includes the quantity taken from each station along the road, shows a falling off of about 1,000 tons in 1887, as compared with the previous year, and to the mind of Mr. Sinclair at least, indicates the beginning of an end which cannot be very far off so far as some of these stations are concerned. The greatest falling off, he says, is in the districts where a few years ago immense areas were under cultivation in cinchona, but which are now almost denuded. He indicates the possibility of a collapse in shipments coming as unexpectedly as the heavy yields of recent years. During 1887 the total shipments of Ceylon barks amounted to 14,389,184 lbs., against 15,364,912 lbs. in 1886. Mr. Sinclair estimates, on careful calculations, that the shipments for the current season will not exceed 9,835,000 lbs.

While not indorsing these calculations the *Observer* thinks it curious that Mr. Sinclair's estimate should be so close to that of the press, namely, 10,000,000 lbs. Rferring to the fact that the prospects of cinchona bark owners are not so gloomy as was at first supposed, the *Observer* deduces certain results from the statistics of the Java plantation in support of this assertion. The total export of bark to Amsterdam from the private plantations of Java were 632,250 lbs. in 1885, 847,800 lbs. in 1886 and 1,200,000 lbs. 1887. On good authority the exports for the current year are estimated at 2,250,000 lbs. and for 1889 at 3,750,000 lbs. Beside this the Government plantations give from 800,000 to 1,000,000 lbs. a year. "Here then we seem to have the probable increase of fine bark from Java, which has to be faced for the next two years," says the *Observer*, "a quantity very much less formidable than was to be anticipated from the figures of other authorities. Although special consignments of Java bark analyze up to 7 and 10 per cent sulphate of quinine, yet the average of all the sales works out to not much more than 3 per cent. The average will certainly be higher as the older barks increase in the exports; but perhaps it would be enough to say that the Java exports may analyze double (in place of three or four times) the value of Ceylon barks. In that case the estimated increase in Java export for 1888 would be equal to about two million pounds of Ceylon bark, and if we do not ship from Colombo more than nine or ten millions for this calendar year, we may count on a comparative decrease in the available quantity from the two countries equal to two million pounds of Ceylon average quality. For the succeeding year, 1889, the anticipated increase from Java (equal to three million pounds of our bark) will also probably be nearly met by another failing off in shipments from Ceylon. But if not, there is the growing consumption of quinine sufficient to make the demand equal to any difference."

Adulteration of Pharmaceutical Extracts.

M. A. Pannetier directs attention to the frequent adulteration in France of pharmaceutical extracts with dextrine. This seems to be added with a double motive. While increasing the bulk, it also allows the evaporation to be stopped at an earlier stage of the operation. It is detected by adding subacetate of lead to the aqueous solution of the extract to precipitate tannin, gum and coloring matters; filtering and removing the lead by hydrogen sulphide; after again filtering the liquid is evaporated to about one fifth of its bulk and its volume of 96 deg. alcohol is added, when the presence of dextrine is indicated by a precipitate being formed. The extracts containing dextrine present a fine appearance rather than otherwise.

Examination of Lard.

FROM A CHEMICAL STANDPOINT.

Mr. J. Carter Bell, an English chemist, has made an examination of several samples of lard in England with the following result, as published in the *Chemical Trade Journal:*

Some time ago I had a number of samples of lard sent to me for examination, being suspected of adulteration. With such a substance it was of course very difficult to specify what the genuine article was mixed with; but after many trials I managed to discover that in the instance before me cottonseed oil was the adulterant. After trying many processes and failing with them all, I hit upon the use of chloride of sulphur as being a reagent likely to be of some use in the inquiry. It is well known that chloride of sulphur (the S_2Cl_2) when mixed with a drying oil gelatinizes it, and the product so obtained is sold under the name of indiarubber substitute. This "substitute" is insoluble in petroleum "benzoline," and these reactions seemed to indicate to me a process for the separation, or at least the detection of cottonseed oil and other oils of a similar nature, in the presence of such fats as lard, tallow, etc.

In order to see how oils and fats would behave under the influence of this reagent, I first mixed them in various proportions, and finally discovered that 5 c.c. of the lard melted at 35 deg. C., and mixed with 1 c.c. of benzoline, and also 1 c.c. of the chloride of sulphur, and well stirred, leaving the mixture at rest for twelve hours was all that was necessary.

Pure lard remained unaltered by the foregoing treatment, and after standing twelve hours the mixture is soluble in benzoline On the contrary, other oils and fats were variously effected, as will be seen by the following table which shows the rise of temperature on the addition of the chloride of sulphur, and the behavior of the mixture at the time;

Description of oil or fat.	Rise of temp. deg. C.	Color of mixture.	Physical condition.
Cocoanut....	3	Light amber.....	Liquid,
Pale rape....	40	Dark "	Solid.
Palm.....	31	" red brown.....	Liquid.
Castor.....	51	Very dark "	Solid.
Linseed.....	61	Dark "	"
Cottonseed...	57	Light "	Viscid.
Sesame.....	59	Red "	Solid.
Walnut.....	16	Light amber.....	Liquid.
Almond.....	12	" "	Liquid.
Poppy.....	66	Dark "	Solid.
Sperm.....	10	Light "	Liquid.
Olive.....	10	" "	"
Theobroma...	7	Dark "	"
Lard.....	20	Light "	"
Butterine....	10	" "	"

After standing twelve hours, the following table shows the change which had taken place and the behavior of the mixture with benzoline:

Description.	Physical state.	Behavior with Benzoline.
Palm.....	Viscid.....	Soluble.
Almond.....	Yellow, transparent hard.....	Not dissolved.
Walnut.....	" "	"
Theobroma.....	Liquid.....	Easily soluble.
Sperm.....	Viscid.....	"
Olive.....	Transparent, hard.....	Not dissolved.
Cottonseed.....	Brown, hard mass.....	"
Cocoanut.....	Very liquid.....	Easily soluble,
Lard.....	Liquid.....	"

A suspected sample of lard or tallow may be treated as before described, the rise in temperature noted, and then left at rest at the ordinary temperature for twelve hours. If any cottonseed oil is present there will be a glue-like formation, which will be insoluble in benzoline.

All the details of the operation before mentioned must be strictly followed, as by particular methods of treatment even pure lard may be rendered insoluble in benzoline after treatment with chloride of sulphur. It is very doubtful whether so small a quantity of cottonseed oil as 5 per cent can be detected in lard or tallow by this means, as after treatment and standing for twenty-four hours, the mixture is dissolved by benzoline; but there is the rise of temperature to guide the operator, which in a mixture of 5 per cent cottonseed oil and 95 per cent of pure lard, made in the laboratory, amounted to 32 deg. C.

In a trial—side by side—of pure lard and a sample of adulterated with 10 per cent of cottonseed oil, the former easily dissolved in benzoline after having remained at rest for twelve hours, while the latter proved insoluble. I do not give this method as an infallible guide for the detection of cottonseed oil in lard or tallow, but as a rough method for preliminary

examination, in order to see whether the sample requires a further examination. Adulterated lards do not always show even such a rise of temperature with chloride of sulphur as pure lard, but of course this shows the sample under examination to be abnormal.

Assignment of Mayer Bros. & Co.

Mayer Brothers & Co., importers of coffee and commission merchants, at 69 Wall street, suspended last week, and the members of the firm, Carl and Simon Mayer, made a general assignment late in the afternoon, without preference, to Louis Adler of the law firm of Hoadly, Lauterbach & Johnson. The failure is said to be the result of the recent decline in coffee, of which they were carrying a heavy load, and the failure of customers to make good their differences. The firm hopes that its embarrassment will be only temporary, and that it will be able to make a favorable settlement and resume business.

For many years the firm has occupied a prominent position. According to *Bradstreet's* reports the business was established in 1872, at which time the Deutsche Handelsgesellschaft of Frankfort, Germany, was a special partner for $350,000, and the Gebruder Sulzbach specials for $50,000. The firm was then the American agents for the Frankfort coffee syndicate. In January, 1881, Henry D. Babcock was appointed receiver for the firm of Mayer Brothers & Co. to dissolve the partnership on account of losses in iron and coffee. The specials withdrew, Carl and Simon Mayer received a full release from the specials, and formed the present firm, who started with $30,000 of their own capital. They did a general export and import business and gradually prospered and extended their operations. They imported coffee, spices, gambier and tin as commission merchants, and exported petroleum on order.

Louis Adler, the assignee, said that the assignment was so sudden that he had not been able to learn the extent of the liabilities or the value of the assets. The assignment was caused by the heavy shrinkage in coffee and large losses sustained by the firm through customers out of town who did not make good their differences. He thought the suspension would only be temporary, and that the firm would be able to make a satisfactory settlement, as the creditors were very friendly. The liabilities were principally to the banks and large coffee houses. The greater part of the liabilities was on differences between the collaterals and the amount of loans thereon. No attachments had been issued against the firm and none were contemplated.

The Anchor Manufacturing Co.

The 1st of January 1883, the Anchor manufacturing Company, which, while primarily intended for the construction of barrels, can go into any form of woodwork, began the construction of barrels from one piece of wood, excepting the heads and the hoops. The works were located on a piece of fifty acres of marsh land on the south side of the River Rouge, between the River road and the Michigan Central Railroad crossing in Detroit, Mich. There was no other factory of this kind in the world, and the result of the experiment was that it was decided to exactly double its capacity, and on the 29th of August, 1887, this result was accomplished, and with 500 men the company started on what was fondly hoped to be a new era of prosperity, but before work had progressed one hour a fire was discovered in one of the drying kilns, and although it had been thought that there had been provided ample means for the extinguishment of fire, the flames secured a complete control of everything, and when they were finally subdued it was found that nothing was left but the hoop mill and its engine house, the little office, the stable, and the boarding house.

The only frame building connected with the working plant is the "hoop mill," which escaped the fire and is 200x70 feet in size with an engine and boiler house of brick 100x70 feet, containing a battery of six immense boilers and a magnificent engine, which is only one of nine in use in the works.

The new buildings are all of brick, with heavy stone foundations and having corrugated iron roofs and thirty-seven fire walls without any openings, are fire proof, with floors of "slow burning" mill construction. They are as follows: Main mill, 216x77; boiler house, 70x48; engine house, 36x44; twenty-four dry kilns, each 24x60, built in two blocks; three heading kilns, each 100x17; warehouse, 180x60; cooper shop, 40x96; veneer house, 76x76; sanding house, 36x39; fuel house, 34x30; small engine house, 20x2 ; dust house, 36x30; dray saw horse, 52x14. There are ten vats fourteen feet deep and each 6½ by 76 feet, and over these are a dozen or more cranes to handle the logs after they have been steamed.

As now completed the works can turn out 1,200 barrels an hour, and there is no danger of an interruption of the business of the company by fire, since the fire walls extending far above the roofs practically isolate each of the compartments.—Detroit *Free Press.*

The Detroit *Tribune* also says:

There is great rejoicing in Ecorse, Springwells and Delray over the approaching completion of the monster works of the Anchor Manufacturing Company, which will resume business in a few days with a capacity at least double that of the plant destroyed by fire last August. The company occupy a tract of fifty-three acres on the River Rouge, near Fort street. They have a quarter of a mile of dock room and three-quarters of a mile of railroad frontage. The buildings are now all constructed solidly of brick, with iron roofs, "cotton mill" floors eight inches thick, and every precaution against danger from fire. The main machinery building is about 300 feet long. The hoop plant has a capacity for 100,000 hoops per day, being the finest in the world. There are twenty-four dry houses, each 24x60 feet, and separated by fire walls. The main warehouse is 280x60 feet. There is also a cooper shop with a capacity of 2,000 to 3,000 finished barrels daily to supply the local trade.

The capacity of the works before the fire was about 6,000 barrels per day. This has now been doubled, and yet far more orders have been and are being received than the company can fill, even with their greatly increased facilities. The principal depots of the company are located in Minneapolis, New York, England and the West Indies. They will employ about 300 men, most of whom live in the thriving settlement which has sprung up around the works, and bears the name of Anchorville. The president of the company, Hugo Mattullath, of New York, is now in the city, stopping at the Kirkwood. The other officers are John E Searles, of New York, vice-president; C. E. Cottrell, of Detroit, treasurer; Cass G. Robinson, of Detroit, secretary.

German Methylated Spirit.

WHAT A CHEMIST THINKS OF IT.

At a meeting of the Pharmaceutical Society of Great Britain on February 15, Mr. D B. Dott read a paper upon the subject of German methylated spirit, in which he said:

This subject has recently attracted some attention, particularly in connection with proposed alterations in our British spirit law. Unlike our own methylated spirit, which has been in use for over thirty years, the German equivalent is a thing of recent introduction. About two years ago the German Association of the spirit industry offered a prize for an account of the best "denaturalizing," or as we would say, methylating mixture. The prize was awarded for a mixture of caoutchouc oil and a solution of naphthalin in petroleum. The official commission however, recommended a mixture of wood spirit (2 parts) and pyridine (0.4 part). This solution was not considered sufficiently powerful, and the Government ultimately adopted a mixture of 2 parts wood spirit and 1 part pyridine bases, to be added to 100 parts of alcohol. It is of some interest to compare the German spirit with our methylated spirit. The most cursory examination of samples of the two kinds will show that as regards smell, and still more as regards taste, the German spirit is much more disagreeable than our own. It follows that the former would be far less likely to be used as a stimulant, and therefore it better fulfils one of the most important requirements of a methylated spirit.

The fact that the pyridine bases are poisonous would also help to establish a wholesome dread of the mixture, among those who would be most apt to make an illegal use of the spirit. The toxic properties of these bases might, of course, be judiciously exaggerated. Let us next consider the relative merits of the two spirits as regards their use in the arts and manufactures. Everyone knows that one of the objections to methylated spirit is that it leaves a more or less persistent unpleasant odor on evaporating. As might be anticipated the denaturirte spiritus is in that respect even worse than methyl spirit. So much is this the case that the German spirit could certainly not be used for some of the purposes for which our own spirit answers fairly well. Yet it must not be supposed that because the pyridine bases have high boiling points, they must therefore remain for a long time after the evaporation of the alcohol. For instance, a paper filter saturated with the German spirit and left to dry in the air of the laboratory at the ordinary temperature, after twenty-four hours had a scarcely perceptible pyridine odor. This defect of the spirit, however, almost necessitates the use of other mixtures for special purposes. The German Government, therefore, allows a mixture containing ½ per cent. of turpentine for the preparation of varnishes, and other mixtures are permitted for different manufactures. It would be impossible without elaborate experiments to say how the German spirit would work in the preparation of compounds which are the result of decomposition of the alcohol. Probably its only advantage would be that it contains a smaller proportion of foreign substances relatively to the alcohol, than does our own spirit. In regard to the important question, as to the facility with which such a spirit can be purified, there is little doubt that the denaturirte spiritus compares unfavorably with our own. I mean, of course, from an Excise point of view. I have no practical experience of any of the rough and ready methods which are said to be employed for the purification of methylated spirit; but I am certain that distillation with sulphuric acid effects a greater purification of the German spirit than could possibly be the case with our own spirit. This is exactly what would be expected from the fact that the impurities in the former spirit are to so great an extent of a basic nature. At the same time it must be remembered that this process of purification could not be carried out without the use of a still of some sort, and the presence of a retort and condenser elsewhere than in a laboratory would probably excite the suspicions of the excise. We are led to the conclusion that denaturirte spiritus contains too large a proportion of pyridine bases and too little wood spirit. I think that a mixture of 5 per cent wood naphtha and 0.5 per cent pyridine bases, would combine the advantages of both systems, and so form a nearly ideal methylated spirit, that is, a spirit which would be at the same time sufficiently nasty, and yet not too impure for trade purposes.

I need hardly add to what has been already said on the matter "in another place," but just a word to prevent misunderstanding. No such mixture as that referred to is suitable for the manufacture of fine chemicals, alkaloids, etc. For these purposes a purer spirit is required.

Submarine Oil Springs.

With the Pilot Chart for November issued by the Hydrographic Office at Washington, there was issued a statement relative to the possible existence of submarine oil springs, as indicated by various reports received from shipmasters on the Atlantic and in the Gulf of Mexico. Mention was made in this connection also, of a well known spot near Sabine Pass, on the Gulf coast, called the "Oil Pond," where small vessels run in and anchor during heavy weather, the water being there comparatively smooth, owing to a quantity of oil or oily mud which rises to the surface. It was also stated that no such reports had been received from the Pacific coast. Since the publication of this article, however, and as a result of the interest elicited by it, several reports have been received and these are published in the report for March as a matter of general interest.

The attention of the Hydrographic office was first called to a letter from Mr. Thomas K. Griffin, of the *Guide* office, San Francisco, published in the New York *Maritime Register*, Dec. 21, in which he states that several submarine oil springs exist on the Pacific coast. The most pronounced is off what is known as "Coal Oil Point," about one and one quarter miles west of Goleta and ten miles west of Santa Barbara. Mr. Griffin had also kindly supplied information from several masters of vessels who have cruised in these waters, and their reports are so clear and consistent as to leave little room for doubt of the existence of such submarine oil springs off that coast.

Capt. Van Helmet; American steamship Los Angeles, states that when a vessel passes through the region of the spring mentioned above, the smell of oil is so strong as frequently to cause nausea among passengers and crew, and in certain spots the oil can be distinctly seen bubbling up on the surface.

Capt. Wallace, American steamship City of Chester; Capt. Ingalls, American steamship Santa Rosa, and Capt. Alexander, American steamship Queen of the Pacific, testify that there are other similar springs on the Pacific coast, though not so pronounced as the former. Capt. Ingalls gives the position of the large spring as follows: Latitude 34 deg. 22 min. 30 sec. N., longitude 119 deg. 53 min. W., distant 8 miles W. by S. ½ S. (magnetic) from Santa Barbara light. Capt. Wallace locates it about 18 miles west of Santa Barbara, and states that the surface of the ocean is frequently covered for miles with the oil. He has also seen oil floating on the water to the north of Cape Mendocino, from 3 to 5 miles off shore, and thinks there is another spring there. Capt. Plummer, American steamship Gypsy, who has sailed 17 years in these waters, confirms the above statements, and says the belt of oil above Santa Barbara can be seen the darkest night when sailing through it.

A very full and interesting statement has also been received from Capt. Goodall, of the Pacific Coast Steamship Company, who refers to the fact that Goleta point is known to masters of steamships as "Coal Oil Point" on account of the oil abreast of it rising from the bottom of the sea. On a calm day the water is covered for miles with oil, bubbles of which can be seen rising to the surface and spreading over it. Although it does not seem to smooth the water like animal oil, yet, on a windy day you can see a smooth slick of oil on the surface. This spot is so well known by shipmasters that the smell of the oil is used as a guide in foggy weather, the petroleum smell being so strong that a captain can never mistake his position when off that point. Capt. Goodall states also that he has noticed a small flow of oil from the bottom of the sea off Coj o point, near Point Conception, but there the amount of oil is very small. It cannot be seen bubbling up from the bottom, but is often visible on the surface, the odor being very perceptible.

Bitumen is known to be generally distributed throughout the coast ranges to the southward of San Francisco, and petroleum wells and tar springs have been found at places. It seems probable, therefore, that the oil-bearing strata crop out here and there at the bottom of the sea off the coast, or else that the oil escapes through the crevices in the overlaying strata and rises to the surface. Such submarine oil springs are known to exist at certain other places—the Bay of Cumana, Venezuela, for example, where petroleum rises and spreads upon the surface; and it is said that off the Island of Trinidad, West Indies, there are submarine volcanoes which occasionally boil up and discharge a quantity of petroleum.

The Ohio Oil Field.

The Buckeye Pipe Line Company furnishes the following report of operations in the Ohio oil field for the month of February:

Wells completed—Lima district, 7; Findlay' 10; North Baltimore, 16; total, 33. Wells drilling March 1—Lima district, 10; Findlay, 8; North Baltimore, 19; total, 37. Rigs up March 1—Lima district, 20; Findlay, 1 ; North Baltimore, 20; total, 53. Wells abandoned, 5. February's operations show an increase in every department of the work, the only exception being a decrease of two in the number of wells completed in the North Baltimore district. In new wells the Lima field shows an increase of 2, while the Findlay district jumps from 2 wells completed in January to 10 in February. In wells drilling the Lima district show an increase from 4 to 10. Findlay is a stand-off with last month, and the Baltimore district shows an increase of 2. At the 1st of February 44 rigs were up, while 53 were standing at the 1st of March.

Below is the list of wells drilled, wells drilling and rigs built and building in the Lima field during the month of February:

Owners.	Leases.	Wells.
Fowler Oil Co	J. Reicheidelfer	175 bbls
Fowler Oil Co	J. Reiche'r No. 2	drg.
Joe Evans	Davies	125 bbls.
Joe Evans	J. Reicheidiefer	drg.
Knox & Co	Smith No. 2	drg.
Vaughan & Mullen	Beeler	125 bbls.
Dave McCullough	Crawford No. 2	75 bbls.
Sproull	Shaffer	60 bbls.
J. D. Nelly	Cumrine	drg.
F. H. Rose	McCullough No. 2	drg.
Union Oil Co.	Richie No. 2	150 bbls.
Laney Bros. & T	Davies	75 bbls.
Spear, M. & H'v'r	Kemper	drg.
Treat, M. & Jones	Greer	drg.
Tom Clemenger	Huston No. 4	rig.
Weeter & Co	Harpster	drg.
Workman & S. Bros.	Wolf No. 2	drg.

The following are ranked as wildcats:

Ohio Oil Co	Bowsher (B'ckl'd)	drg.
Rook Oil Co	R'h'ds'n (B'ckl'd)	drg.
Trenton Rock Oil Co	Williams (B'ckl'd)	80 bbls.
Miller	Young (Buckl'nd)	50 bbls.
St. Mary's O & G. Co	Lock No. 5 (B'kl'd)	drg.
Syracuse Oil Co	Mendon	85 bbls.

By the operations of February 835 barrels new production was added, the wells being of a high average. Wildcatting has been characteristic of the work and the Mendon well, drilled by the Syracuse Oil Company, has extended the field fifteen miles to the westward, making the Lima field nearly thirty miles in an unbroken stretch. There is a feeling among producers that the price must soon advance and they exhibit great activity in getting leases and prospecting the territory.

The runs of the Buckeye Pipe Line for February were 422,902.49 barrels, and increase of 63,054.03 compared with 359,818.46 for January. The shipments of the same company were 74,429.59 barrels, a falling off of 7,318.38 below 81,647.97 for January. To this must be added 5,000 production used by the five independent lines in the same field, making the total production in Ohio for the month of February nearly 500,000 barrels. Much of the production is wasted in the Wood county field or this figure might easily be swelled.

A New Pipe Line.

The great scheme to build a pipe line from Lima, in the Ohio oil fields, to Chicago, is now said to be a fixed fact, and the line will be completed within sixty days. The right of way has been secured along the entire route, and a telegraph line is now in course of construction. The contracts have been let in four sections of fifty miles each. A large invoice of pipe and fitting has been received at the Watt farm near Lima, where the company will locate the main pump station on this end of the line, and orders are now placed for the balance to be filled at an early date. The importance of this line to Lima and Chicago cannot be overestimated. It connects the already overburdened and most extensive oil field of the world with the great western manufacturing center, and places fuel oil at the very doors of the thousands of manufacturing industries, furnishes an outlet for the immense surplus of over 4,000,000 barrels stored in this field, and also makes room for the thousands of barrels that are daily coming to the surface and going to waste in large quantities for lack of storage facilities. The capacity of the line will be 30,000 barrels per day, and only fuel oil will be put into the line after the gasoline and water white have been extracted from the crude by the refineries in Lima. The effect on the market must be beneficial. The refineries at Lima, it is stated, will be enlarged and will have to be run on extra time to care for the output of the field and meet the demand for the fuel oil that will spring up from the greatly reduced price at which it can be placed in Chicago or any of the cities along the line where it touches, since it can be piped for only a few cents a barrel.

A large force of men are already at work, and the work of laying the line will be pushed as rapidly as possible, since it is expected to have the oil running through the line by June first.

The Lofoden Cod Fisheries.

REPORT OF U. S. CONSUL GEN. ANDERSON.

I made a journey last March to the Lofoden Islands and Tromsoe, in the northern part of Norway, to regions seldom visited by travelers in that season of the year. I collected a few notes, especially in regard to the cod-fishing industry at Lofoden. These I have since supplemented with facts from other sources.

LOFODEN FISHERIES.

The Lofoden district is the scene of the principal industries of Norway. It has the same significance for that country and the north of Europe as Newfoundland has for America. Perhaps some idea of its importance can be formed from the statement that of the annual native exports from Norway, amounting during the fifteen years 1870 '85 to a yearly value of $26,400,000, or about 100,000,000 kroner, the products of the fisheries formed nearly one-fourth, cod and its allied products coming in for nearly $4,000,000 of this, with over half of this sum again to be credited to the Lofoden cod.

In 1848 five hundred fishermen were engaged in these waters, while now the number reaches fully thirty thousand, and it is estimated that the wear and tear of oiled clothing alone used in the three months' season represents the sum of $60,000.

NUMBER OF FISH CAUGHT.

So far as known the numbers of fish coming into the fjord is practically the same each year, the catch depending almost entirely on the condition of the market.

As a demonstration of this it may be mentioned that in Ostnesfjord (a narrow arm of the sea 1¾ miles long by 1¼ miles wide), a sheltered quiet sheet, the catch this year amounted to about 18,000,000 cod, while the total catch of all the other waters of the district together, owing to the unusual storminess of the weather amounted to only 13,000,000. It must, however, be added that the fish rarely come as far up as Ostnesfjord, the last time heretofore being in 1868. As soon as the cod is through spawning it disappears—where to is not known, but it is supposed to some point not far out in the sea. The number of cod caught during the several years from 1876 to 1887 inclusive, were respectively as follows:

1876	23,000,000
1877	29,000,000
1878	26,000,000
1879	25,000,000
1880	27,000,000
1881	28,000,000
1882	29,000,000
1883	17,000,000
1884	17,000,000
1885	27,000,000
1886	31,000,000
1887	31,000,000

Prices paid for the cod vary greatly, in accordance with the prospects for a good or bad season. In 1879 the price was 18 kroner ($4 80) per 100 fish, varying from this through the following years down to 13 kroner ($3 44) in 1880, and up to 24 kroner ($6 44) in 1885. This season the prevailing price was about 12 kroner ($3 17).

FISH OIL.

Oil occupies by no means an insignificant position among the products of Lofoden, though in amount it varies through the several years far more than the other cod products. From 1876 to 1880 the production averaged 45,000 hectoliters per year, while in 1883 not more than 8,000 hectoliters were secured, and in 1886, 35,000. The value of the product also varies, according to quality and the amount produced, from 25 kroner—$6 66—to 350 kroner—$93 33—per barrel. The preparation of the oil is carried on partly at factories and partly as a sort of domestic industry. The liver saved, as before stated, is sometimes sold to the local factories and sometimes collected in barrels which at the end of the season, the fisherman takes to his home in order to prepare their contents. In this way the livers often stand many weeks, and upon their arrival a certain quantity of their oil has already been freed by the rotting of some of the liver cells. This is poured off, and then, by repeated boilings over open fires, the rest of the oil is boiled out. In this way four sorts of oil are obtained—raw medicinal, clear (yellow), partly clear (light brown), and refuse or train (brown).

The livers sold to the factories are treated in other ways, and from them is obtained the now well-known product which is sold as steam-refined codliver oil. As much of this is exported to America, where it is admitted to be superior to the Newfoundland oil, I took pains to ascertain the process by which it is prepared, and for this purpose I visited a factory at Stamsund. Here I was well received by the present owner, who gave me every facility for seeing his works and assisted me in getting a clear description of his method of preparation, laying special stress upon the fact that there was no secret connected with the process. His own success, he claimed, was due chiefly to a careful selection of the livers and a scrupulous cleanliness at every stage and point of treatment. The very first requirement for the production of a good article of oil is that the liver be of the best sort and perfectly fresh. The fish from which it is taken should have been caught the same day as the boiling is done. When care is observed, and if the thermometer be under the freezing point, the liver may also be used the day following the catch.

After being most carefully sorted, the sick livers being known by their greenish tinge, and lean, scanty ones by a red or often nearly black color (both of these to be unhesitatingly thrown out), the livers, with the gall-bladders removed, are well washed and then tried out by one of three processes. The first of these is used in many of the refineries, as the capital required for a plant is not great and the oil obtained may be excellent, if sufficient care be observed in its preparation. In this process the principle is simply even heating of the raw material in water baths.

The second method, used in the factory I visited and which I myself witnessed, consists in gradually heating the livers in iron kettles about and under which steam is circulated freely, the temperature being automatically regulated by ventilators.

The third method is the most rapid, simple and cheap of all, and is mostly used on board vessels which are sent to Lofoden for the sole purpose of trying out oil. It consists of freeing steam under some pressure directly into the mass of livers, which heated, rapidly give up their oil. After being obtained by any of these processes and poured off, the oil is cooled more or less, and during a longer or shorter time, during which treatment the stearine separates itself in a ratio proportionate to the degree of cold and the time cooled.

The better sort are kept for a long time at a temperature not above zero C., and are then pressed in cold rooms, filtered and bottled. If all the oils prepared by either of the first two of these methods are not equally good and clear the reason lies in the fact that the process has not been conscientiously followed and not in any secret of preparation. The fault generally lies in the choice of the livers. Strong competition often makes it unprofitable to discard large masses of raw material simply because it is somewhat old or tainted, especially when it is known that the resulting oil cannot be recognized until after the lapse of some time.

By the third process of trying out the oil—that is, by rapid and high heating of the livers through direct contact with the superheated steam—more oil is obtained, but of a far inferior quality, as it quickly acquires a disagreeable taste and can be detected by its appearance a short time after preparation. Long experience and extensive experiments at the better factories have demonstrated that the oil should never be heated above 70 deg. C. Oil which has been subjected to a higher temperature oxidizes on contact with the air the more rapidly the higher the temperature it has reached. How far the separation of the stearine is of any gain or loss from a therapeutic standpoint is still an open question, but the demand of the public that the oil shall remain clear, even in cold weather, makes the present process necessary. In respect to the amount of stearine contained, there is a great difference between the Lofoden and the Newfoundland oils. While the former yields from 10 to 15 per cent. of its bulk in stearine at a temperature zero C., the latter, under the same conditions, never gives more than 5 or 6 per cent.

The last filtering of the oil can not be done too carefully, as there are always minute particles of liver cells held so finely in suspension that only the most painstaking filtering can remove them. At first they are invisible, but they collect, and later show themselves as a sediment at the bottom of the bottle or vessel in which the oil is preserved.

As to the difference in quality between the American and Norwegian codliver oil, I think I am safe in saying, as may in fact be seen from the statements already made, that it arises chiefly from the different circumstances under which the fishing is carried on.

At Lofoden the boats used are small and open, and the circumstances require that they shall be ashore every night, and thus the factories can obtain the livers of each day's catch when not more than a few hours old. On the other hand, the fishing on our coasts is carried on in decked vessels, fitted for long cruises, touching shore only at long intervals, so that by the time the livers can get to the factories they are old or partly putrefied. To remedy this, and thus bring the large American trade in codliver oil mainly or wholly into American hands, I would suggest that our oil refiners send out clean, nicely-fitted steam refining vessels, which should cruise the fishing grounds, buy the livers fresh from the fishing smacks, and try out the oil on the spot and in the manner above described. This plan is thought perfectly practicable by several persons largely interested in the Lofoden industry with whom I have talked.

FISH GUANO.

Formerly all refuse of the fisheries was thrown into the sea, but of late years factories have been established which buy it up and manufacture it into an excellent fertilizer under this name of fish guano. In the preparation of this are used all the fish heads, the part of the backbone which is removed from the salted cod, the boiled livers from the oil factories, large quantities of herring, and the blood of the cod and the codfish oil having first been obtained from the two latter by hydraulic pressure. These materials are dried, sometimes in the open air and sometimes by the aid of artificial heat, after which they are ground in specially constructed mills, and put upon the market in casks, sometimes with the addition of potash or mineral earths, which enhance its value as a fertilizer. The average production of this article at Lofoden during the last five years has amounted to about 33,000 sacks of 100 kilos each, into the total of which has gone, among other things, about 12,000,000 fish heads. This industry is at present suffering from depression, and owing to a stagnant market and low prices several of these fisheries have suspended during the last three years.

German Eau De Cologne.

REPORT OF CONSUL WAMER ON THE INDUSTRY.

Since the new and increased taxation in Germany on home produced brandy and spirits went into operation on the 1st of October this year, the manufacturers of eau de Cologne in this city have been somewhat stirred up to know whether it will not likewise have the effect of increasing the price of their cologne water, and, as I hear, steps have already been taken by the leading manufacturers to induce the German government to make some such alteration in the present tariff as to be more favorable to their purpose.

By this new law the import duty on foreign spirits has also been raised on arrack, cognac, and rum in barrels from 80 marks per 100 kilos to 125 marks per 100 kilos; and on all other brandy and spirits to 180 marks per 100 kilos.

I am informed that some of the leading cologne water makers of this city use chiefly spirits of wine (weinsprit) imported from France in the preparation of their eau de cologne, and in consequence of this increased duty in Germany, one of the largest and most important firms here has already announced that after the 1st of October this year they will be obliged to raise the price of their manufacture.

Since the new duty has come into operation, the wholesale price for the ordinary sized bottles per six dozen has been raised, as I am informed, from 12.50 marks per dozen to 13.50 marks per dozen, with the usual discount of 5 per cent.

In connection it may be interesting to give the declared value of the export of eau de Cologne from Cologne to the United States during a series of back years, which are as follows:

Year.	Amount.	Year.	Amount.
1876	$21,225	1883	$15,858
1877	15,424	1883	54,131
1878	12,253	1884	23,134
1879	10,732	1885	13,209
1880	19,892	1886	14,500
1881	13,076		

The above amounts can hardly be taken as a fair representation of the actual value and the quantity of eau de Cologne consumed by the American people, since nearly every traveling American visiting Cologne seldom leaves the place without purchasing a bottle or more of its sweet-smelling water.

Since writing the above I have read a semi-official statement from Berlin, in the Cologne *Gazette*, that the carrying out of the spirits taxation law is attended with so many difficulties that the reserved revision of the administrative regulations will shortly have to be undertaken. Many of the existing regulations need to be entirely changed, and it will be necessary also to observe very closely the large number of proposals sent to the government in various forms by interested parties. Work has already been commenced for some time on the material relating to the revision.

Values of Fertilizers and Chemicals.

The estimation of "Relative Commercial Values" of fertilizers has been the uniform practice of the Georgia Department of Agriculture since the first fertilizer bulletin was published in June, 1885. It was not the intention of the commissioner to indicate by the publication of these values the absolute prices at which fertilizers should be sold to the farmer, but simply to enable the farmer to compare the commercial quality and probable agricultural value of the different brands with each other.

Early in each season, by correspondence, and otherwise the commissioner ascertains the cash prices at which the different materials which enter into the manufacture of fertilizers may be purchased at the port of Savannah, as well as the prices of standard acid phosphates and manipulated fertilizers. From these prices the commercial, or market values, of the three valuable elements, ammonia, phosphoric acid and potash, are deduced—making a fair allowance for cost of manipulation and handling; and the "Relative Commercial Values" in the table are based on these elemental values, and approximate the cash value of a single ton of the fertilizers in Savannah, Ga. In the course of trade and sharp competition—especially near the close of the business season—the ruling prices of fertilizers often vary considerably from those of the opening of the season. But it is impracticable to change the prices of elements fixed at the commencement of the season, as explained, without confusion and conflict between the successive fertilizer bulletins of the same season. As a consequence of the competition of trade and the reduction of prices of fertilizers in the course of the same season, such prices will sometimes be materially lower than the published "Relative Commercial Values," as occurred towards the close of the season of 1886-87.

Throughout the season of 1886-87, the valuations of the three elements which from the basis of the calculated commercial values were as follows:

	Per pound.
Available phosphoric acid	7½ cents
Ammonia	18 cents
Potash [K, O.]	5 cents

The usual correspondence and inquiry has resulted in fixing the following as the estimated cash market values of the three elements as they are found in a single ton of average fertilizer, bagged and delivered on board cars at Savannah; and the same are the basis of the calculations of Relative Commercial Values in the tables which follow, and will be maintained throughout the season of 1887-88:

	Per pound.
Available phosphoric acid	6 cents
Ammonia	14 cents
Potash [K. O.]	5 cents

It will be seen that this is a reduction in the valuation of elements as compared with the basis of last season, amounting to, in available phosphoric acid, one and one-half cents; ammonia, two cents; potash remaining the same. This reduction will account for the lower Relative Commercial Values of many familiar brands as compared with last year.

For instance: An acid phosphate containing twelve per cent. available phosphoric acid, at a valuation of seven and one-half cents per pound for this element, would have been rated last season at $18 per ton; while at six cents, the same would be rated at $14 40 per ton. A fertilizer containing 10 per cent. of available phosphoric acid and 3 per cent. of ammonia, would have been rated last season at $24 60 per ton; the present season the same fertilizer, having precisely the same composition and the same agricultural value, would be rated at $20 40.

Cotton Oil as a Food Product.

In a recent work Dr. Jesse P. Battershall, Ph. D., F. C. S., Chemist United States Laboratory, says:

"As a result of the publicity lately given to the subject of food adulteration a popular impression has been produced that any substance employed as an adulterant of or a substitute for another is to be avoided per se. Perhaps the common belief that for all purposes cottonseed oil is inferior to olive oil is the most striking illustration of this tendency. Now, as a matter of fact, pure cottonseed oil as at present found on the market is less liable to become rancid than the product of the olive, and for many culinary uses it is at least quite as serviceable. The sale of such products under their true name should not only be allowed, but under some circumstances even encouraged."

All new food products require time to secure their introduction into general use. It was with much difficulty that Europeans were first induced to accept the potato as a regular article of diet. But when a valuable food product comes upon the market at a price much below the cost of other similar articles the new product certainly comes to stay. Cottonseed oil, being equal to olive oil and superior to lard and cheaper than either, is bound to occupy a large place in commerce. It is only a question of time when cottonseed oil will supersede all other fats and oils for cooking purposes. Physicians agree that nine-tenths of American dyspepsia is due to the use of lard in pastry and in cooking. Physicians likewise agree that the use of vegetable cottonseed as a substitute for lard will remedy this difficulty.

Cultivation of Cinchona in Java.

THE LATEST REVIEW OF THE SUBJECT.

As the outcome of observations made at the meeting of the Planters' Association at Bandoeng, in Java, Mr. C. H. Von Winning makes the following important remarks in the *Indische Mercuur:*

Mr. Berkhoat, government forester, had asserted that profits can still be made at a sale price of the product of 5 cents per unit, and per half kilogram of bark, on condition that the cinchona trees are not rooted up before their sixth or seventh year, whilst Mr. Von Romunde, director of the government cinchona culture, ratified this assertion in so far that a well-conducted cinchona plantation may exist, and make profits, at a sale price of the bark of at least 7 cents per unit. I have greatly wondered how any one can pronounce such verdicts, which are not founded on experience, but are only results of very uncertain and very optimistic calculations for the future. Many details are required; but many are still utterly unknown, because the cultivation in Java is much too young, and especially because it has been carried on with the seriousness wholly indispensible for good and reliable statistics for a few years only. Will the soil be as proper for the culture of cinchona after twenty, thirty or fifty years? Nobody knows. Which methods of culture and harvesting are the best? Here opinions differ greatly; for example, not long ago in the government plantations a method of culture was condemned and left after it had been extolled as the best. Ought the trees to be scraped or not? What shall be in future the middling standard of the yearly harvest of a cinchona plantation? Seedlings give the most divergent average figures. From seed of the same tree, obtained at the same time, grown on the plantations under my management, trees have bark of a half, but also of more than 10 per cent. alloy. Who can determine the future average alloy of the bark from a cinchona plantrtion? And this is naturally one of the most important factors of the problem. But not only the alloy of cinchona of the plantations, but also the average yearly harvest, is still music of the future. We try to learn and improve; we hope, but we do not know yet.

At the cinchona plantations under my management—one cleared for twelve, the other for ten years—from every garden-plot (five bouws) all the figures are from the beginning faithfully noted which are of worth for a statistical survey; as, for instance, number of offspring of the trees, distance of planting, manner of keeping in repair, and harvesting, quantitative and qualitative result of the harvest, analysis of bark of various ages, original and renovated, etc. From this already much has been learned and grounded thereon; several modifications have been made in the manner of cultivating and harvesting. But in the result such figures show best that a period of ten or twelve years is much too short for building precepts for future cultivation. Moreover, the useful experience for our present culture only dates from the time that the high alloy of cinchona (of the Ledgerianas) became known, and this species was increased on a large scale, and this is not much longer than twelve years ago.

However instructive the government culture may have been by the incessant and always published trials, also on technical grounds, etc., it has never—at least, so I know—yielded any precepts of commercial value. The yearly figures of productions and experience can not serve private persons. Nowadays, garden plots are rooted up and harvested which are more than twenty years old, but a private person will never be able to offer such Christmas boxes. The harvest of the government plantations of 1885 (the last which is known) shows exactly the contrary of the value from the director of this culture—that profits are still to be made at a market price of 7 cents per unit, and per half kilogram. According to the report, the price of a half kilogram of bark amounted for the government to circa *f.* 0.375. A private person must add thereto the various taxes, the ground rent, the insurance of his buildings and harvest, and the interest of his original and working capital, which are all factors which the Government does not consider in its reports. When the government plantations had been worked by a private person a half kilogram of bark, from the harvest of 1885, would have cost him more than *f.* 0 50. Now, the average alloy of the government harvest amounted in that year to 3.15 per cent.; thus, at a unit of 7 cents, the yield per half kilogram would have been circa *f.* 0 225. At that unit the government would thus have lost nearly *f.* 0.155 on every half kilogram of bark from its harvest. And for a private person working the government plantations the loss might have amounted to at least *f.* 0.37 per half kilogram.

It is evident that at a unit of *f.* 0.5 all the bark below an allow of 3 per cent. is absolutely valueless. Harvesting, shipping and selling it at such a unit only results in loss. Actually, the average alloy of the harvest of most cinchona plantations amounts to little more than 3 per cent. It is hoped that this will improve. I also hope and believe it, but a plantation of moderate extension must be tolerably old, that is to say, must have passed several years of full production before it yields, for instance, constantly 100,000 half kilograms of bark, of an average of 5 per cent. cinchona, rather a long period of years must have elapsed.

Such a production, at a unit of *f.* 0.05, should yield *f.* 25,000, to be diminished with 100,000 times *f.* 0,13 or *f.* 0.15—*f.* 13,000 or *f.* 15,000—for costs of harvesting till the sale of the bark and the receips of the profit on the plantations. The remainder thus would amount to *f.* 10,000 or *f.* 12,000, out of which must be defrayed (1st) all the charges and expenses, those for harvesting excepted, and consequently the re-stering of buildings, the costs of keeping in repair thereof, and of the gardens; the costs of new plantations, to fill the place of the rooted up trees which have yielded the harvest, the salaries of the managing body of assistants, the costs of survey, etc.; (2d) the interest of the original and working capital; (3d) the amortization of this capital, or the deduction on the value of the plantation, because it is unknown how long the soil will remain fertile for cinchona culture and because the right of quit rent ends after expiration of the period for which it has been conferred.

From the experience gained by me in twelve years of cinchona culture, and of my knowledge of this culture, I dare to predict that when the unit per half kilogram is permanently no higher than 5 or 7 cents, by for the greatest number of cinchona plantations in Java must be ruined sooner or later. I have thought that a protest against the verdicts of both the gentlemen named in the beginning of this paper might be useful to prevent great disappointment to young planters, and by those who might wish to begin cinchona plantations, or to advance funds on them.

The Decomposition of Petroleum Naphtha.

It has long been a known fact that in the distillation of Caucasion petroleum, some constituents decompose even at relatively low temperatures. This is shown in the formation of coke deposits in the crude oil stills at Baku which, therefore, to avoid a burning through, have to be cleaned every seventeen to thirty days. This decomposition of the Caucasian oil did not attract much attention until recently, when Alexejew patented a process for obtaining relatively low boiling products from the crude naphtha by a peculiar process. This consists of distilling in an atmosphere of illuminating gas accompanied by a decomposition of the naphtha. Prof. Lissenko has therefore had Rosenbladt study this process in the laboratory of the Mining School at St. Petersburg, in order to find out the most favorable condition for the decomposition of the naphtha without the use of illuminating gas. The apparatus consisted in a round-bottomed flask of difficultly fusible glass, to the neck of which was fitted a dephlegmator tube, 1·5 cm. wide and 40 cm. in length, from which issued latterally four delivery tubes, set at different heights, 6 cm. apart. In the beginning of the distillation the vapors issued from the top tube, while the three lower ones were closed off. When the vapors cease to issue here, this tube is closed and the next lower one is opened and connected with the condenser and receiver. When this ceases to deliver the third and eventually the fourth delivery tubes are opened and similarly connected. To determine the temperature at which the distillates were given off, a long glass tube sealed below was lowered through the dephlegmator tube, and in this, glass cylinders containing metallic zinc, bromide of silver, chloride of silver and chloride of lead, were placed. By the fusion of these several substances, the temperatures 400 deg. C., 434 deg. C., 457 deg. C. and 501 deg. C. were determined. The temperature best fitted for the decomposition of the naphtha was found to be between 424 deg. C. and 457 deg. C. Similar experiments conducted on a larger scale in Nobel's technical laboratory in St. Petersburg, gave 400 deg. C. as the best temperature for this decomposition. Operating in this way with naphtha residues, from which burning oil fractions had been distilled off, Rosenbladt got sixty-four per cent. of a distillate of sp. gr. 0·805, thirty per cent. of sp. gr. 0.860, and four per cent. of a coke-like residue. The first distillate (sp. gr. 0·805) gave on fractioning:

Deg. C.	Per cent. of a fraction of	sp.gr.
Up to 110	10	0.703
From 110 to 135	10	0·756
From 135 to 175	10	0·786
From 175 to 255	20	0·813
From 225 to 235	10	0·838
From 235 to 295	10	0·849
From 295 to 305	10	0·847
Residue	20	0 867

The second distillate (sp. gr. 0·860) separated on cooling solid hydrocarbons, while the first mentioned above (sp. gr. 0·805), even after purifying with sulphuric acid and alkali, showed a yellow color and a pyrogenic odor. On separating into fractions by the second distillation, however, it yielded an unexceptionable burning oil, which showed no tendency to become yellow on exposure to the air.

Theoretically, then, Lissenko has solved the problem of decomposing the heavy portions of the crude naphtha into lighter ones, which can be burned as illuminating oil. Practically, the process will not be carried out at Baku, with the present prices of crude oil, as the process involves several distillations and a lengthening of the time necessary for the production of the illuminating oil, so that it is cheaper to take the smaller yield from the crude oil and throw away the residues than to work them up for burning oil.—*Russian Mining Journal.*

The Use of Oil at Sea.

A LETTER FROM VICE-ADMIRAL CLOUE OF THE FRENCH NAVY.

The use of oil at sea is of the remotest antiquity. Aristotle, Plutarch and other classics afford internal evidence of this remarkable fact. A well-known Gospel verse shows that the mysterious virtue of oil in stilling the stormy billows was already familiar up to eighteen hundred years ago. Indeed, the earliest seafaring men, the Phœnician traders and the sprightly mariners of the Grecian Archipelago, as far back as the days of Homer, must have been well acquainted with the peculiar property which oil possesses when poured on the waves—in however small quantity—of suppressing the heavy seas that break over a vessel and threaten to submerge it.

Yet would this singular property seem to have been lost sight of, or remembered only by a few stray toilers of the deep, whose interest was to preserve the antique tradition of so valuable a peculiarity. Thus, even to this day, as soon as the weather begins to look ugly the fishermen along the coasts of Syria and those of the Persian Gulf lose no time in piercing the oilskins suspended at the stern of their craft to let the contents run out over the waves. In the north of Scotland the Kilda fishermen obtain a sort of calm, which they call "tioum," by casting into the sea the oily livers of the fish they have caught. At Gibraltar and other parts of the Spanish border the fishermen are accustomed to pour a little oil on the sea in order to still its motion, that they may be able to see the oysters lying at its bottom, which, it seems, are very large and luscious. Another observation worth attention has been made by the seal catchers. When seals are devouring a very oily fish, which they always do under water, the waves above are observed to be remarkably smooth, and by this sign the fishermen know where to look for them.

This property of oil is known particularly to divers, who make use of it in order to have a more steady light as the bottom of the sea. The Bermudians, when they would strike fish, which they could not see if the surface of the water were ruffled by the wind, pour on the waves a little oil to smooth them. The Indians of the Pacific Ocean use cocoanut oil to render the water transparent when fishing for pearl oysters and other shells. Again, the divers in the Mediterranean, who, when under water in their business, need light, which the rippling of the surface interrupts, let a small quantity of oil now and then out of their mouths, which rising to the surface smooths it, and permits the light to come down to them.

Perhaps one of the most curious documents hitherto discovered in connection with this subject dates back to the early part of the eighth century. It is a story related by the venerable Bede. Here it is.

"A certain priest, whose name was Utta, a man of great gravity and sincerity, and on that account honored by all men, even the princes of the world, being ordered to Kent to bring from thence a wife for King Oswy—Eanfleda, the daughter of King Edwin, who had been conveyed thither when her father was killed—and intending to go thither by land, but to return with the virgin by sea, repaired to Bishop Aidan, entreating him to offer up prayers to our Lord for him and his company, who were then set out on their journey. He, blessing them and recommending them to our Lord, at the same time gave them some holy oil, saying, 'I know that when you go abroad you will meet with a storm and contrary wind; but do you remember to cast this oil I give you into the sea, and the wind ceasing immediately, you will have pleasant, calm weather, and return home safe.' All which fell out as the Bishop had predicted. For, in the first place, the winds raging, the sailors endeavored to ride it out at anchor, but all to no purpose, for the sea breaking on all sides, and the ship beginning to be filled with water, they all concluded that certain death was immediately at hand; the priest at last remembering the Bishop's words, laying hold of the phial, he cast some of the oil into the sea, which, as had been foretold, became presently calm."

The first recorded instance of an experiment offering a scientific value in modern times dates from 1757, when Dr. Benjamin Franklin, being at sea in a fleet of ninety-six sail bound for Louisburg, observed the wakes of two of the ships to be remarkably smooth, while all the others were ruffled by the wind, which blew fresh. Being puzzled, the doctor at last pointed it out to the captain, and asked him what it might mean. "The cooks," said he, "have, I suppose, been emptying their greasy water through the scuppers."

To an acute mind like that of Franklin this amounted well nigh to a revelation. An old sea captain, then a passenger with him, thought little of it and told the doctor that it was a practice with the fishermen of Lisbon, when too great a surf swept the bar, to empty a bottle or two of oil into the sea, which would at once suppress the breakers and allow the crew to enter the river.

Another gentleman from Rhode Island told the doctor that the harbor of Newport was always smooth when the whalers were inside it. This probably arose from the blubber which the vessels sometimes bring loose in the hold, or the leakage of the barrels; the oil from this source, mixing with the water which from time to time the crew pump out to keep the vessel free, spreads over the surface of the water in the harbor, and prevents the forming of any waves.

Franklin thereupon undertook a series of experiments which were eventually recorded in a memoir. He noticed among other things that the water is always smoother in the wake of a ship that has been newly tallowed than it is in the wake of one that is foul.

In a letter dated at Batavia, Jan. 5, 1770, and addressed to Count Bentinck, a M. Fengnagel says: "Near the islands of St. Paul and Amsterdam, we met with a storm, which had nothing particular in it worthy of being communicated to you, except that the captain found himself obliged, for greater safety in wearing the ship, to pour oil into the sea to prevent the waves breaking over her, which had an excellent effect and succeeded in saving us. As he poured out but a little at the time, the East India Company owes, perhaps, its ship to only six demi-aumes of olive oil. I was present upon deck when this was done, and I should not have mentioned the circumstance to you but that we found people here so prejudiced against the experiment as to make it necessary for the officers on board and myself to give a certificate of the truth on this head, of which we made no difficulty."

For some time past I have had leisure thoroughly to investigate this curious subject, and it is an honor for me to link my name with that of the illustrious American sage in attempting to elucidate so strange a scientific problem, especially as I have no other purpose in view than that of furthering, as far as in me lies, the welfare of those whose venturesome spirit brings them daily into contact with the many dangers which assail us on the high seas.

In the course of my researches one circumstance struck me, as it had Franklin, with particular astonishment. I allude to the sudden wide and forcible spreading of a drop of oil on the face of the water. If a drop of oil fall on a flat, polished surface, on a slab of marble for instance, the drop remains in its place, spreading very little. But when put on water it spreads instantly many yards around, becoming so thin as to produce the prismatic colors for a considerable space, and beyond them so much thinner as to be invisible, except in its effect of smoothing the waves at a much greater distance. Out of fully 250 ships or boats that have made use of oil at sea and whose reports I have received, only some fifty mention the quantity of oil expended within a given time. The average may be laid down at 2 liters 20 centiliters per hour, which I think, approximates very near the truth. Now, if we consider a vessel sailing before the wind at a rate of ten knots an hour, and consequently spreading oil over a surface 18,520 meters in length by 10 meters in width, with the average outpour per hour above stated, I find that the layer of oil spread over this enormous extent of water barely reaches 1-90000 part of a millimeter (.03937 of an inch) in thickness! In other words, the area so covered has a layer of oil so phenomenally thin that it must be expressed in figures to be properly understood.

By what method is oil spread at sea? The ordinary method is to make use of a stout canvas bag, of a capacity of about two gallons, in which tow well steeped in oil is placed and whereon oil is poured afterward so as to fill the bag; the mouth of the bag is then tightly corded, and holes are bored in the bottom with a sail needle, to let the oil drop out. If the vessel drives before the wind in stormy weather, two of these oil-bags should be placed on each side, well forward. Some seafaring men have obtained even better results by placing an oil-bag at each cathead, so that every time the forepart dips the oil spreads to right and left on the track along which the vessel glides. Bags of all shapes and sizes have been used for this purpose; even an old stocking has been turned to account in an emergency.

When, however, the gale blows crosswise I should recommend the use of a float to which an oil-bag has been secured; this float is connected with the cathead to windward by means of a line and pulley, the line of such a length that when the float is launched overboard and made taut by the drift of the vessel the float and oil-bag are brought almost on a level with the cathead from which they are strung. Such an arrangement will be found especially serviceable on board mail packets and all fast sailing vessels with a sharp bow on a short journey, like those which ply between France and England.

When—as happened to the Cunard steamship Aurania last year—one of those huge transatlantic vessels which measure between 140 and 150 metres in length, happens to have her eccentric put out of working order in a heavy gale, so that her sails are rendered useless, the ship at once becomes helpless and labors in the trough of the sea, the winds and waves beat against her and pour over her on every side.

The best thing to do in such a strait is to hang out at least ten oil bags at equal distances along the whole side that is assailed by the wind; the ship will soon be found to ride more steadily, while the necessary work of reparation may be carried on. The same course should be adopted in respect to large ironclads, which are without sails to govern them and which as soon as they are disabled in their machinery, find themselves at the mercy of the elements. In all such cases the use of oil is invaluable.

In the United States, where this question has been studied more than in any other country—and I may here state that the veluable pilot charts issued at Washington first drew my attention to the subject—a small apparatus has been invented which works automatically. Every time the vessel pitches, a small quantity of oil is let out over the sea. The contrivance seems to me a clever one, but of too frail and complicated a system to be of practical use at sea.

Notwithstanding the astounding rapidity with which oil diffuses itself on the waves, nothing has yet been devised to calm the breakers when the ship sails, to use a seaman's expression, in the eye of the wind. To effect this it would be necessary to spurt oil forward at least ten meters in advance of the bows. Still, I think this might be done by means of a powerful pump or projector, worked by a strong rod and having a narrow tube, from the forepeak of the vessel. As, however, the smaller the drops which are thus projected the quicker does the oil spread, a serious difficulty is encountered in spurting forward oil spray to such a distance in the face of the wind. Perhaps the difficulty might be overcome by mixing beforehand the oil with water and projecting the two together. The water would thus convey the oil to a greater distance, while the oil on reaching the surface of the waves would as readily mix with them as it does otherwise.

M. Emile Percire has promised to instruct the staff of able officers who manage his splendid fleet of transatlantic steamships to make experiments with the view of discovering whether this means or some other may not be adopted to smooth the waves in advance of a vessel when it sails with its head to the wind.

If it can be shown—as I am convinced it can—that man has the means at his disposal for, to a certain extent, calming the violence of the tempest tossed sea, it will be a boon to all voyagers. The pouring of oil on troubled waters, not merely in a metaphorical sense, has often been successfully tried, and the many cases I have collected into pamphlet form in my treatise entitled "Le Filage de l'huile" are of a nature to convince the most incredulous. Take, for instance, the case reported by Captain Kuhlmann, of the North German Lloyds steamer Main, respecting the use of oil which he made during the prevalence of heavy seas on the voyage between Bremen and New York in July of last year. Captain Kuhlmann says:

"We were in 50 deg. north and 23 deg. west, in stormy weather, with a high sea from the west

We steered west, and thus had the sea right in front of us, so that the vessel pitched and rolled badly, taking the heavy seas at the bows. The passengers could not remain on the deck because of the seas, which rolled from the fore-part and flooded the deck. And, moreover, the boats hanging in the davits in danger of being washed away in the shifting of the vessel. I resolved in this extremity to experiment with oil, and two pipes opening on the sides of the ship were stopped with tow and then filled with oil, which flowed slowly through the two. I soon observed the effect, for from the fore-shrouds to the stern no water came over. The sea had lost its power by reason of the oiling. We opened the doors and approaches, and the passengers could stay on deck at will. The oiling was continued seven hours, and the small quantity of five pounds was used."

Here, as in almost every case, the most astonishing part of the narrative is that the oiling went on for seven hours, and yet only five pounds of oil were used. When the distance the vessel must have traversed in seven hours and the quantity of water that must have been effectively oiled are considered the five pounds seem a marvelously homœopathic dose. When the use of oil becomes generalized, as I trust it soon will, not only will passengers be saved from much discomfort when the sea is rough, but also the perils of shipwreck will be lessened, for, however tempestuous the sea, a little—a very little—oil will control its power about the vessel. Captain Kuhlmann was so elated with his experience that he advises other navigators to adopt the plan. So do I.

Alcohol Restrictions in Germany.

HOW THEY AFFECT THE DRUG AND CHEMICAL TRADES.

A correspondent of the *British and Colonial Druggist* summarizes the alcohol tax situation in Germany, as follows:

Up to October no duty had charged on manufactured spirit of any kind, i. e., no duty on the ready made product, but the distillers were required to pay a small tax on the materials used for the manufacture of spirit, and to avoid any fraud they were always under strict Governmental surveillance; and so it will remain. The new regulations do not abolish the former tax on the materials used for making the spirit. It is, however, reduced to a trifle, varying from ¼d to ⅓d for each cwt. of materials employed, according to the ingredients and the quantities used at a time.

The new regulations stipulate that besides this tax an additional duty must also be paid on the ready-made spirit, this duty amounting to 6d, viz: ⅛d per liter of absolute alcohol. If the total annual quantity of spirit produced does not exceed 4½ liters (about 8 pints) per head of the population, a duty of 6d is levied on the liter of absolute alcohol. For any quantity in excess of this 8½d per liter is, however, charged by the government.

The tax is payable at once; the duty when the spirit leaves the distillery. To arrive at the total annual produce, no spirit exported or used by chemists for manufacturing and domestic purposes will be taken into account. The alcohol used by chemists for pharmaceutical purposes is free from tax and duty; i. e., the sums paid will be refunded to them on producing their books, which must clearly show for what purpose the spirit has been used.

The quantity of alcohol free from duty to the chemist is fixed at 100 liters per annum—about 44 gallons—and they are bound to keep the spirit in such vessels that the controlling Government inspector can see at a glance how much of it has been used up to the very moment he enters the shop; and when he asks for the books which must always be posted up to the hour, they must clearly show when and for what purposes the alcohol has been employed.

For all quantities of alcohol used by chemists for pharmaceutical purposes, and exceeding 44 gallons a year, the full duty has to be paid. Of course, there are many small chemists who use but very little alcohol all the year round, and for these it is scarcely worth while to have all the trouble of properly booking the quantities used, and, therefore, they prefer to use the duty-paid spirit. Certainly this places the small chemist at a disadvantage in comparison with the larger establishments, but then, on the other hand, these latter are only to be found in towns of considerable size, where the rent and other expenses are greater, but where the prices for the drugs and medicines must be the same as charged by small chemists in the villages.

Let us now see what influence this new German spirit duty has had on the manufacturing chemist and some other industries. These formerly used the pure alcohol, which was free from duty (subject only to the small tax on the materials used for making the spirit), and the Government did not care what the spirit had been used for, whether for manufacturing purposes, varnish, vinegar, eating or drinking, etc; to day all this is changed and many trades are very much hampered by the new regulations. Methylated spirit was formerly a thing unknown in Germany, but it is very well known there now, and there is a general outcry against it.

All spirit used for domestic purposes, to be exempt from duty, must be methylated, and the law demands that 100 pints of absolute alcohol must be mixed with 2½ pints of such a substance, that it is impossible to use the spirit for drinking or eating purposes; and further, that this admixture must consist of 4 parts of methyl and 1 part of pyridine base. This mixture, however, not only prevented the use of the spirit for drinking or eating purposes, but it also excluded its use for many other manufacturing purposes, and, therefore, the Government has temporarily accepted a proposal that in such cases the addition of the quantity of pyridine base might be reduced to ⅛ per cent., and also that the percentage of allyl should also be lessened.

The spirit employed for the manufacture of polish and varnish may be mixed with a half per cent of oil of turpentine only, provided these preparations are for sale, and not for use in the manufacturer's own trade. Neither of these denaturalized spirits would, however, be suitable for making vinegar or extracts of drugs, and, consequently, such manufacturers would have to use the duty paid pure alcohol if they wanted to work in their factories with the same liberty as they were wont to do; but this would be impossible without raising the price of their products, as the duty is too heavy, and would soon drive them out of many markets which they now command. The only way open to them is to submit to a strict governmental control, and they now have to make their products in the presence of an officer, whose salary they have to refund to the government. Those engaged in some other industries which are also affected by the new duty, for instance, the eau de cologne and other scent manufacturers, transparent soap manufacturers, &c., who cannot use the methylated spirit in its present condition, and who would be unable to continue their business if compelled to use pure alcohol, have petitioned the government to allow them another kind of admixture to the spirit, sufficient to make it unfit for drinking or eating purposes, but still suitable for their trade, and I learn that the government is considering their application.

I alluded above to the dislike with which the methylated spirit has been received by the public in Germany, especially on account of its bad smell when used for heating purposes. The chief fault, however, is not so much to be found in the composition of the admixture, as in the inferior quality of the methylated spirit supplied to the public—a spirit which in most cases contains ten per cent or more of fusel oil, the smell of which is temporarily removed by the methyl, but becomes very intense again when the flame is extinguishing. This has caused the inventive Germans to make all kinds of experiments to remove the admixture of the methylated spirit, not only for the sake of preventing the bad smell, but much more to make the spirit suitable again for drinking and eating purposes; and notwithstanding that the government was very careful in the selection of the best kind of admixture, one person has already succeeded to a great extent in attaining this end by adding sulphuric acid, or better still some trichloriacetic acid to the methylated spirit. The government will have to be on the watch that it may not be cheated, and that the aim of its new regulations may be attained.

I should mention that the town of Hamburg, and the district belonging thereto, is not yet subject to the German spirit regulations, but will be included from January 1st, 1889.

Danish Petroleum Bill.

A BILL TO REGULATE THE TRADE IN PETROLEUM, ETC.

Minister Anderson transmitted to the State Department the following copy of the petroleum bill introduced in the Danish Legislature, together with the Government's remarks thereon:

Petroleum which under the test prescribed in section 2, in an atmosphere represented by a barometer height of 760 millimeters, gives off ignitible vapors at a temperature lower than 23 deg. C., shall not be sold for use in quantities less than the minimum prescribed for its sale at wholesale.

In larger quantities it shall only be sold in packages plainly marked with the word "explosive" in letters proportionate to the size of the package.

Sec. 2. The temperature at which petroleum first gives off ignitable vapors shall be determined by tests in the so called "Abel's apparatus."

By a special ordinance rules will be given for the making of these tests, and a ratio fixed for the raising or lowering of the temperature spoken of in section 1, according as the barometer is below or above 760 millimeters.

Sec. 3. The provisions of section 1, second part, apply only to naphtha and benzine as well as to other products obtained from petroleum by distillation which, under the test mentioned in section 1, give off ignitable vapors at a temperature less than 23 deg. C. When sold for use in quantities less than the minimum prescribed for their sale at wholesale, their packages, beside being marked as above, shall bear in legible letters the words "Must not be brought near an open light." * * * The provisions of this paragraph may, by special ordinance, be extended so as to include other liquid hydrocarbons.

Sec. 4. Infringments of this law or its relative ordinances are, providing heavier punishments are not administered under the provisions of the penal law, punishable by fines of from 10 to 200 kroner, all cases of infringement to be treated as public police cases.

Persons accused of infringement of this law shall, when tests in connection with the case are to be made under police inspection, be given due notice to be present at the same.

Sec. 5. This law, which does not apply to the Faroe Islands, goes into effect three months after its publication in the "Law Tidings" (Lovtidender).

From the same time the "law governing the trade in petroleum and other illuminating liquids" of November 12, 1870, is repealed.

GOVERNMENT REMARKS ON THE PRECEDING BILL.

By a law of November 26 1870, section 1, it is ordained that petroleum and other illuminating liquids giving off ignitable vapors at a temperature lower than 40 deg. C. shall, under a fine of from 20 to 200 rigsdaler, be not sold for use except in holders which, in legible letters proportionate to the holder's size, shall be marked with the word "Dangerous" (Farlig).

In conformity with this paragraph's second part, there are, by a royal ordinance of September 4, 1871 (see the proclamation of September 8, that year) given rules for the construction of that apparatus with which tests of the temperature at which petroleum and other illuminating liquids give off ignitible vapors are to be made, as are also rules for the making of such tests.

In the years which have elapsed since this law was passed, the use of petroleum as an illuminating agent has, as is well known greatly increased.

At the same time its production has, of course, kept pace; but, inasmuch as the raw petroleum, besides the illuminating oil proper (kerosene), contains a very considerable quantity—as high as 45 per cent.—of other oils which are of a comparatively low value, attempts have been made to mix these with the illuminating oil, thus producing an article of much greater ignitability, and therefore far more dangerous than the unadulterated oil.

As a natural consequence of this the attention of the authorities in the various countries has steadily been devoted toward the passing of such regulations as would secure consumers against these dangers, and experience has of late years led to the passage of new laws governing the trade in petroleum and similar explosive liquids in several countries, among them both of our neighbors, Germany (1882) and Sweden (1885).

Now, as the tests upon which these newer laws are based have shown that the laws in force with us do not insure sufficient security, the ministry, whose attention was called to the matter by a lecture given before the Insurance Companies' Union, required an opinion in the matter from the Polytechnic Institute, and in pursuance of the explanation and the recommendations therein made, have deemed it necessary to propose radical changes in the present legislation upon the subject, looking toward the establishment of greater security against the dangers arising from the use of petroleum and its relative oils, as well as more perfect agreement with similar legislation in our nearest neighboring countries.

The law of November 26, 1870, in fixing the "test" of petroleum at 40 deg. C. had reference to the open apparatus then in use for testing; but later experiments have demonstrated that no open apparatus can give sufficiently reliable results, and least of all the one there authorized.

This tester far from satisfies the demands made upon it to-day. (1) because it does not give results which agree with each other, inasmuch as tests with the same oil can often vary as much as 3 deg. C, and even this exactness can only be attained after considerable experience; (2) because the law fixes 40 deg. as the lowest limit for the ignition of the vapors, while oil that scarcely satisfies tests which in reality demonstrate a safe article show a temperature of 53 deg., so that a dealer whose object was alone his pecuniary advantage might, without breach of law, import an oil of 13 deg. lower test, which in use would prove extremely dangerous. This latter defect might easily be remedied administratively by simply ordering a few minor changes in the dimensions of the tester's various parts, but the first difficulty can only be removed by ordering the tests to be made in a closed apparatus.

This, however, cannot be accomplished unless a change be made in the legal test temperature, which in such case must be set considerably lower (21-23 deg. C.), and the Ministry of Justice has therefore, as was also advised by the Polytechnic Institute, deemed it most advisable to introduce a bill to alter the law, the more as such a step is indicated by the wish, above all, to seek the exclusion of dangerous petroleum from the retail trade, and thus from daily use.

Thus the present bill has been prepared. While ordering that tests shall be made in a certain closed apparatus it fixes the test at 23 deg. C.

In this connection it is to be remarked that the test is not fixed at the same point in the various countries. In Germany it is 21 deg. C.; it is 22 deg. in Sweden, and about 23 deg. in England.

In Germany, however, there seems to be great dissatisfaction with the too low limit, inasmuch as rather poor oil can stand the test, and a movement has been set on foot, seconded by the Polytechnic Institute, to have the test raised to 23 deg.

As regards the testing apparatus which it is proposed to introduce, the so-called "Abel's" apparatus, it is that which is commonly regarded as the most exact and best, and is authorized by law both in Germany and Sweden, as well as being used in the United States for testing all oil destined for the English market. There can, therefore, in the opinion of the ministry, be no doubt as to the advisability of choosing it.

True, it is somewhat dearer than the Danish tester now in use; but this fact, it would seem, should prove no hindrance to its acceptance, as it is more especially designed for use in the official control where experts are appointed. For private use much cheaper apparatus might be procured, which could be used, some directly on their own merits (Doxrud's apparatus), and some after once for all having been compared with Abel's. That more detailed rules for the use of the authorized apparatus, and among them provisions for changes in the test temperature, according as the barometer varies, should be given by special ordinance, will, it is to be presumed, be deemed natural, and fully coincides with the institutions of Germany and Sweden.

Besides the already mentioned regulations as to petroleum temperature test, the bill contains, as will be noticed, a prohibition of the sale at retail of petroleum which does not satisfy the provisions of the bill.

The law of November 26, 1870, allowed as is known, the sale at retail of such petroleum, providing its holders were marked with the word "Dangerous" (Farlig). * * * The ministry supposes, however, that the uses which can be made of such explosive petroleum in the arts are only of such nature that the act of forcing its users to buy their supplies at wholesale cannot be productive of any inconvenience, and by thus entirely excluding this product from the retail trade an advantage is undeniably gained in a much stronger guaranty that it will not be purposely or carelessly used for illuminating purposes, than if its sale at retail were allowed, even under limited conditions. Still it has been deemed most advisable to retain the above mentioned rule as to the marking of the packages of such oil when sold at wholesale. In addition, section 3 of the bill contains provisions as to the trade in naphtha, benzine and similar products obtained by the distillation of raw petroleum.

The reason for these liquids not being included under the same rules as petroleum, as is the case in the law of November 12, 1870, is that they naturally give off ignitable vapors at a temperature far below 23 deg. C., and at the same time, although only to a small degree used as illuminating agents, they have such varied uses in the household as would render it impossible to exclude them from the retail trade.

It is necessary, therefore, to limit restrictions in this regard to the simple maintenance of the provisions of the law of November 12, 1870, that is, that all packages of such liquids should bear a warning label.

The other provisions of the bill, which, in the main, are the same as those contained in the law of November 12, 1870, need, it is believed, no explanation.

Russian Petroleum in Sweden.

REPORT OF CONSUL MANAT GOTHENBURG

Russian petroleum is being advertised and introduced very extensively in the market here. For some time past there have appeared daily in the newspapers advertisements in large type, offering Russian petroleum at retail at 29 ore—$0.077—per kanna—0.6915 gallons—and American petroleum at 35 ore—$0.093—per kanna, with the apparent object of attracting general attention to the lower price of the Russian oil. This makes a difference of but 6 ore or $0.016 a kanna in favor of the Russian product, which amount, when reduced to United States currency, seems very small, but in Sweden the difference of 6 ore in purchasing a trifle over three-fifths of a gallon of oil would have as much, if not considerably more, influence on a buyer than a difference of 6 cents on a similar quantity would have in the United States.

A storage tank of a capacity of 12,000 barrels has recently been erected on one of the small islands in the harbor below the city, and a tank steamer from Libau, Russia, has just brought and discharged a cargo of 7,000 barrels, and is now returning to Libau for a second lading. This is the first importation ever brought into this port in the above manner. This oil will be distributed through the medium of barrels collected in this locality, most of which are of American manufacture, to the obvious disadvantage of our petroleum interest. I am convinced that much of the strong-smelling oil that is already sold here as American oil never crossed the Atlantic. Although the difference in price between the two oils is slight, it would still prove a strong factor in driving the American oil—notwithstanding its acknowledged superiority—from the Swedish market, as there is probably no other country in Europe where economy is more rigidly practiced or is more necessary. In this high latitude the expense of illuminating, instead of being distributed as elsewhere, with comparative equality throughout the year, is condensed into six or seven months, when the other needs of a rigorous winter season fall with an accumulated volume upon the people.

W. & H. WALKER,

REFINERS OF

PURE COTTONSEED OILS,

MINERS' OILS,
WINTER AND SUMMER YELLOW COTTON OILS,
WINTER AND SUMMER WHITE COTTON OILS.
SALAD OILS A SPECIALTY.

ALSO MANUFACTURERS OF
SOAPS, STAR and ADAMANTINE CANDLES,
SAPONIFIED RED OIL, TALLOW OILS
and CRUDE GLYCERINE

Office and Works, **PITTSBURGH, Pa.**

The Southern Cotton Oil Co.,

INCORPORATED.

CAPITAL, $5,000,000.

MAIN OFFICE AND SALES DEPARTMENT,

Girard National Bank Building, **PHILADELPHIA.**

New York Office, 80 Broad Street,

MILLS AT THE FOLLOWING PLACES,

New Orleans, La. Houston, Texas.
Little Rock, Ark. Memphis, Tenn.
Atlanta, Ga. Savannah, Ga.
Columbia, S. C. Montgomery, Ala.

REFINERIES AT

New Orleans, La. New York, N. Y. Memphis, Tenn.
Little Rock, Ark. Houston, Texas. Philadelphia, Pa.

All the Standard Grades of Cottonseed Oils.

Crude, Summer White and Yellow, Winter White and Yellow, Butter Oil, Cooking Oil, and Miners' Oil. White and Yellow Stearine, Soap Stock, Cottonseed Cake and Meal.

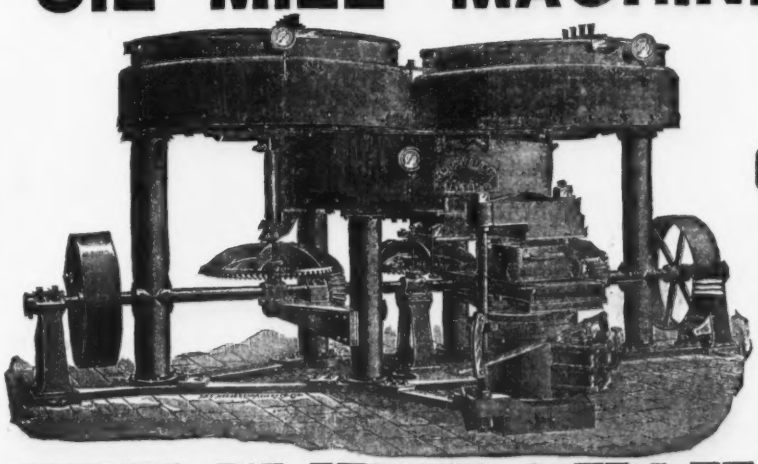
Oil Shipped in Tank Cars or in Barrels.

Correspondence of buyers from all sections solicited, to be addressed to the Philadelphia office.

All the Mills of the Southern Cotton Oil Company are entirely new, built upon the most improved plans, with the best possible mechanical appliances and facilities for handling product advantageously and economically,

Sept. 5th, 1887. **HENRY C. BUTCHER, President.**

OIL MILL MACHINERY A SPECIALTY.



OUR IMPROVED CHILLED CRUSHER ROLLS

Of Three, Four or Five Rolls to a Stack, for

COTTON and LINSEED Guaranteed the

Most complete Machines in this Market

—ALSO—

Improved Presses, Steam Cake Formers, Triple Combination Heaters, Hydraulic Pressure Pumps, Cottonseed Hullers

THE SMITH & VAILE CO. DAYTON, O.

Photographs sent upon Application. Correspondence Solicited.

Pennsylvania White Lead Co.,

ESTABLISHED 1844. INCORPORATED 1887.

—SUCCESSORS TO—

C. F. WELLS & CO., formerly B. A. Fahnestock & Co.,

PITTSBURGH, PENN.

MANUFACTURERS OF

FAHNESTOCK HASLETT & SCHWARTZ STRICTLY PURE WHITE LEAD PITTSBURGH, Pa.

ORIGINALLY B. A. FAHNESTOCK ESTAB. 1844 TRADE MARK REGISTERED 1873

Each package of the original B. A. FAHNESTOCK LEAD now bears a gilt tablet of which the above is a fac simile.

WILEY & RICHARDSON, Boston, Mass., Wholesale Agents for New England

THE ULSTER LEAD CO.,

SAUGERTIES, ULSTER CO., N. Y.

Manufacturers of

THE ULSTER WHITE LEAD PERFECTLY PURE SAUGERTIES, N.Y. BATTELLE & RENWICK, N.Y.

Pure White Lead,

OFFICE

163 Front Street, New York

AGENTS FOR NEW ENGLAND,

COULD & COMPANY, Boston.

THE J. H. MORLEY LEAD CO.,

ESTABLISHED 1862.

Corroders and Manufacturers

—OF—

J. H. MORLEY & CO. STRICTLY PURE WHITE LEAD CLEVELAND.

WHITE LEAD,

RED LEAD AND LITHARGE.

CLEVELAND, OHIO.

INCORPORATED 1867.

AGENTS FOR NEW ENGLAND,

A. L. CUTLER & CO., Boston, Mass.

JAMES BRAND,

7 BURLING SLIP, NEW YORK.

IMPORTER OF THE FINER GRADES OF

ENGLISH CHINA CLAY.

Correspondence Solicited.

MAXWELL WHITE LEAD CO.,

CHICAGO. NEW YORK.

MANUFACTURERS OF

Non-Poisonous White Lead

DRY AND IN OIL.

Office Eastern Department,

T. B. SIMS, Manager,

71 BROADWAY, NEW YORK.

Chicago Office,

Pacific Junction,

COOK CO., ILL.

SALEM LEAD CO.,

SALEM, MASSACHUSETTS,

BOSTON OFFICE, - - - - - - - - 21 PEARL STREET

CORRODERS AND GRINDERS OF

Pure White Lead,

MANUFACTURERS OF

LEAD PIPE and SHEET LEAD from 5-8 to 8 Inches in Width

All goods warranted to be equal to those of any other Manufacturer.

Atlantic White Lead AND Linseed Oil Co.

MANUFACTURERS OF

"Atlantic Pure White Lead.

ATLANTIC WHITE LEAD WARRANTED PURE ROBERT COLGATE & CO. TRADE MARK

Red Lead, Powdered and Flake Litharge, and Glass-House Lead.

ALSO

Refined Glass-House Lead

Especially adapted for the manufacture of the FINEST QUALITIES OF GLASS, and we guarantee its UNIFORMITY.

LINSEED OIL,

RAW, BOILED AND REFINED.

Also a Superior Grade especially adapted for Varnish Makers' use.

Address, ATLANTIC WHITE LEAD & LINSEED OIL CO.

287 Pearl Street, NEW YORK

DOLSON THIS PAINT is Manufactured of the BEST & PUREST MATERIAL AND Warranted equal to any made for Beauty and Durability. WHITE LEAD.

TREMONT PAINT WORKS 11 BATTERYMARCH ST. BOSTON, MASS. ESTABLISHED 1849.

JOHN BRIGGS & CO.,

Proprietors of the Celebrated

Dolson White Lead.

Manufacturers of

PUTTY,

HOUSE, SHIP and COACH COLORS,

READY MIXED PAINT, TINTED WHITE LEAD.

French & American Zincs, WHITING, OCHRES, &c., &c.

COLLIER WHITE LEAD AND OIL CO.,

ST. LOUIS, MO.,

MANUFACTURERS OF

Strictly Pure White Lead.

Red Lead and Litharge,

Lead Pipe, Sheet Lead, Bar Lead.

CHEMICAL SHEET LEAD,

Linseed and Castor Oils and Glaziers' Lead.

BELKNAP STANDARD PUTTY WORKS.

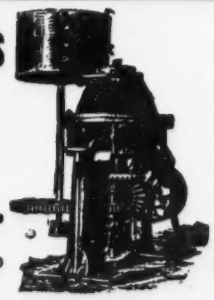
The Oldest Putty Establishment in the United States.

E. S. BELKNAP'S SON, Proprietor,

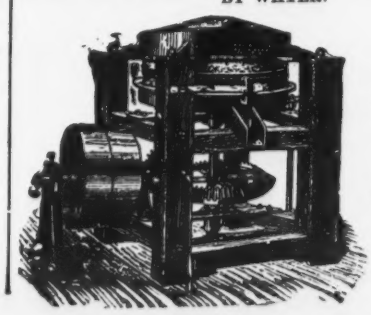
Near Maiden Lane. No. 8 Gold St. New York

"The Best Burr Stone Mills IN THE WORLD," FOR WHITE LEAD, READY-MIXED PAINTS, Coach Colors, Artists' Colors Printing Ink, Axle Grease, CHOCOLATE, &c.

MILLS THAT MAY BE HEATED BY STEAM OR COOLED BY WATER.



Ross' Combined Mill & Mixer FOR COLORS IN VARNISH.



DRUGGISTS MILLS,

Ore Sampling Mills

Mills for Flour, Feed, Drugs, Chemicals, Spices, Dyestuffs, Dry Paints, &c.

ALL KINDS OF

MIXING & SIFTING MACHINERY

CHARLES ROSS, Jr.

81 & 83 South Fifth Street,

BROOKLYN, E. D. N. Y.

PAINT MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on page 49.

TUESDAY EVENING, March 13, 1888.

White Lead, Zinc, Etc

Pig lead is not so firm as at the date of our last. During the early part of the week the speculators showed a disposition to continue their operations, but after 400 or 500 tons had changed hands on the basis of 5 15c for March delivery, they stopped buying and on Saturday the market closed dull at 5½c for spot, 5 15c March, 5 17½c April, and 5 20c May June and July. The consumers bought scarcely anything. Yesterday and to-day business was practically suspended on account of the storm. Messrs. Everett & Post, writing from Chicago on the 10th inst., say:—"The week closes with about the same strong undertone as we outlined in our last. Consumers have purchased a little for spot and near future at 4 90c and 4 95c. The quantity of lead offering is very limited, and the position at the close is strong, at 4 95@5c. The St. Louis market has witnessed considerable trading in pig lead, principally futures. Some 700 tons have been taken by consumers and speculators at 4 90c and 4 95c. The market closes strong at 4 95c, with offerings very light. Cables from London report that market very quiet and dull. Spanish £14, 10s. English £14 17s 6d. In Germany everything is unsettled, and values rule around parity of £15 London for refined leads."

The white lead market continues as inactive and uninteresting as it has been for several weeks past. There is still an unsettled feeling regarding prices but there is scarcely enough business doing to test values. The nominal quotations for city brands in quantities of 500 lbs or over are 6¼@7c less 2¼ per cent for cash. Large buyers get extra discounts and rebates.

American oxide of zinc has been in moderate request, with no special trading reported, and the following figures ruling, the same being unchanged from last week. We quote domestic at 4¼@4¾c as to quality. French zincs have been stationary, the following continuing to rule: 6¾c for dry Antwerp red seal in bbls of 220¼ lbs; Paris red seal 6¾c, and 7¾c for dry Paris green seal. Discounts on French are as follows: To buyers of 10-bbl lots of one or assorted grades 1 per cent, 25 bbls 2 per cent, and 50 bbls 4 per cent. No discount is allowed on less than 10-bbl lots, and discounts include brokerage.

Dry Colors.

REDS

The trading in the market for paints has been but limited, in fact, owing to the furious storm which raged on Monday, business was practically at a standstill, and shutters were put up at an early hour in the day. The freight lines are all blocked to a greater or less extent, and it is impossible to say when the situation will be bettered, and the regular channels of trade in working order. English venitian reds have been in fair request in a jobbing way, with $1 45@1 50 quoted for special brands in large lots, and these figures cover the range of quotations for other makes, depending upon quality and size of order. American makes have continued without special feature, with the demand reported moderate and of a jobbing character, while the following figures are quoted: 90c@$1 05 for ordinary, with some brands held at $1 20@1 25, according to maker and the quantity wanted.

Carmine.—We are unable to note any interesting features for this article. There has been no change in the volume of business, while values continue to be quoted at old figures as follows: $3 15 for round lots and $3 25@3 35 for smaller quantities, according to style of packing and size of order.

Quicksilver vermilion has experienced no change since our last writing. There has been only a moderate inquiry for stocks, and demands have been supplied at the following rates: 65c in kegs of 100 lbs or over, and 66c in 39 to 50 lb bags, while smaller quantities are held at proportionate prices.

Red lead and litharge have been in fair demand, the trading being entirely on the jobbing order. The following are quoted: 6¼@6½c for the former and 6@6¼c for the latter.

Cobalt Oxide—There has been no change in the situation of this article, and very few sales have been made. There have been no changes in the quotations. The following figures rule: $2 50 for best German and $2 for black.

Orange mineral is practically unchanged from last week, and very little trading has been done. Below we give the ruling quotations, namely: 8¼@9 for English, 8½@9½c. for French, 8½@9c for German and 8@8½c for domestic, according to quantity and quality.

BLUES

Up to Monday there had been a moderate demand for blue pigments without, however, any special features being noticeable. Since then, matters have been at a standstill and no business whatever has been transacted, and it is impossible to predict when the situation will improve. For Prussian blue the nominal quotations are 28@30c as to quality, and 48½@50c represents the range on Chinese. Other blues are held about steady at our quotations.

GREENS

The market for green pigments shows no change. Orders for spring delivery on paris are still being booked, with the question of price being left open until April 2.

Miscellaneous.

Sulphate of barytes—There has been nothing special doing in this article, and no movement of any note can be reported. The quotations are as follows: Special brands of imported are held at $21 50, best No. 1 at $17 50@18 50 according to quantity, best off color grades at $15, No 2 at $14 and No. 3 at $12 50.

China clay—The finer qualities are scarce and wanting at the moment, owing to the long delay of goods which are on the way. There is plenty of the inferior grades at hand, but no demand is existing for these. Previous quotations rule.

Talc—There is nothing of any consequence doing in this article, and our former quotations continue to rule.

Terra alba.—We are apprised of an auction sale of some damaged goods, and some 100 casks were purchased at ¼c. There is no pressing demand, and but little is changing hands at old figures. The following figures rule: 75@80c for French, 70@75c American No. 1 and 45@50c for No. 2.

Whiting continues in good demand at former figures, while features of interest are scarce and far between. We continue to quote commercial at 45@50c and gilders at 60@65c.

Glass.

WINDOW GLASS.

The situation in the window glass market is practically without change. The great storm

MasterCar & Locomotive Painters' Association

OF THE

United States and Canada.

Secretary's Office:

KENT, OHIO.

FEBRUARY 17th, 1888.

Messrs. Harrison Bros. & Co.,

Philadelphia:

DEAR SIRS.—I desire to acknowledge receipt by express, of sample of your new Tuscan Red in japan, but I have delayed reporting on it until tested, which I have done in a practical way to my entire satisfaction, and am pleased with the color. I find it finely ground; it is of good body, and dries well; I added about a tablespoonful of raw oil to one pound. It is certainly the best Tuscan Red I have handled in some years, and I have never had its equal in paste form.

Very truly yours,

(Signed) ROBERT MCKEON.

C. H. HOWELL & CO.,

Color Makers

90 Maiden Lane, New York.

212. 214 & 216 Race St., Phila., P

THE JEWETT WHITE LEAD CO.,

JEWETT & SONS PERFECTION PURE WHITE LEAD

28 Burling Slip, NEW YORK.

J. A. DEAN & CO. PERFECTLY PURE LINSEED OIL

J. A. DEAN & CO.,

LINSEED OIL,

AND

LINSEED CAKE.

181 *Front Street, New York*

The Beymer-Bauman Lead Co.,

CORRODORS AND MANUFACTURERS OF

WHITE LEAD,

ESTABLISHED 1867. DRY AND IN OIL.

BEYMER, BAUMAN & CO. STRICTLY PURE WHITE LEAD PITTSBURGH.

Red Lead, Litharge & Orange Mineral

Of Superior Quality, made with Natural Gas Fuel rendering them Absolutely Free from Sulphur

Office, Hamilton Building, 91 Fifth Avenue,

PITTSBURGH, PA.

INCORPORATED 1887. Boston Branch, DEXTER BROS., 57 Broad St.

SUCCESSORS TO

Mordecai Lewis,

Established 1772.

We are prepared to supply the Trade promptly, with our long established and reliable brand of

Pure White Lead

IN OIL,

unsurpassed for whiteness, fineness, and body.

ALSO,

JOHN T. LEWIS & BROS. WARRANTED PURE WHITE LEAD PHILADA.

TRADE MARK.

Painters' Colors, Orange Mineral, Red Lead, and Litharge.

Oxides

FOR

Varnish Makers and others

Requiring Pure Goods A SPECIALTY.

LINSEED OIL,

Raw, Boiled and Refined

Anchor White Lead Co.,

ANCHOR WHITE LEAD WORKS. GOSHORN BROS. PURE CINCINNATI, O.

Established 1828.

CINCINNATI,

Pure White Lead.

RED LEAD, LITHARGE

Agents for New England, E. & F. KING & CO Boston

THE BRADLEY WHITE LEAD CO

174 FRONT STREET,

Brooklyn, N. Y.

AGENTS FOR

Sissons Brothers & Co.

HULL, ENG.,

Manufacturers,

GOLDEN OCHRE, PARIS WHITE

PATENT DRYER, INDIAN RED,

VENETIAN RED, TUSCAN RED, AND COLOR

Steel Smith & Co.

86 Beekman St., New York.

AGENTS FOR

Henry Grace & Co.,

LONDON

MANUFACTURERS OF

WHITE LEAD

ETC.

PAINTS FOR GRINDERS' USE

IMPORTERS OF

English White Lead, Ochres, Umbers, Siennas, Indian and Venetian Reds, and China Clay, V. M. French Zinc, Refined Yellow Beeswax.

We claim to have Our Paints for Grinders of the Best Quality and Most Finely Prepared.

OXIDE of ZINC, REFINED and FLOATED BARYTES.

We are the only Parties in the United States who make

FLOATED BARYTES.

Page & Krausse M'f'g & Mining Co.,

410 ALMOND STREET, ST. LOUIS MO.

The Largest Works in the World.

Established 1849.

L. MARTIN & CO.,

226 Walnut St., Philadelphia, Pa., U. S. A.

2nd. Floor Front.

Manufacturers of

LAMP BLACK

OF ALL GRADES,

AND

Patent Hydro-Carbon Gas Black.

SILVER MEDALS awarded by the Franklin Institute, 1852; Massachusetts Charitable Mechanics Association, Boston, 1860; American Institute, New York, 1867; and Franklin Institute November, 1874; also Diploma and Medal by International Exhibition, Philadelphia, 1876.

Beware of Fraudulent Imitations. All our Brands are Registered.

Sole Agents and Correspondents for

THE PHŒNIX CARBON CO., LUDLOW AND KANE, PA.

THE NEFF DIAMOND BLACK CO., GAMBIER, O.

Paint Mill Grinder.

The Hall Manuf'g Co.

[From John Lucas & Co., Paint Manufacturers.]

GIBBSBORO, N. J., Sep. 1, 1887.

The Hall Mfg. Co., Philadelphia.

GENTLEMEN:—The Emery Grinder for re-cutting and dressing our Iron Paint Mills, we are happy to say, works to our entire satisfaction. It works rapidly, cuts the grooves uniformly, and sharpens the Mill better than by hand filing. Another very desirable feature is, that a boy can operate it, which is of course a great saving to us. We congratulate you on its efficiency. JOHN LUCAS & CO.

The Hall Quadruple Paint Mill

consists of four grinding surfaces upon the one stand being capable of grinding four distinct colors at one time, or four times the amount of an ordinary mill of one color. All parts of the Machine are independent and for durability and efficiency is unsurpassed. The Mill occupies only 21 inches of floor space.

Send for Descriptive Catalogue.

THE HALL MFC. CO.

12th & Butonwood Streets,

PHILADELPHIA, PA.

CHARLES MOSER. FRED. RENNER

CHARLES MOSER & CO.,

59-63 Main St., CINCINNATI, O.

254 Pearl St. NEW YORK.

MANUFACTURERS OF

COLORS,

DRY, IN OIL AND JAPAN AND PULP.

ARTISTS' OIL COLORS

IN PATENT COLLAPSABLE TUBES.

White Lead and Zinc White

THE CELEBRATED

"Economy" Ready Mixed Paints,

QUICK DRYING CARRIAGE PAINTS,

ETC., ETC.

Agents for our Tube Colors

FOR THE PACIFIC STATES,

SULLIVAN, KELLY & CO., San Francisco, Cal.

PURE PARIS GREEN

MANUFACTURED BY

Hampden Paint & Chemical Co.,

SPRINGFIELD, MASS.

Before Placing Your Orders for 1888 Write us for Prices.

NOLEN & BOARDMAN

SUCCESSORS TO CARBON BLACK CO.

CARBON GAS BLACK

MADE UNDER LETTERS PAT. OF SEPT. 1872, MAY 1875, MAY 1881.

5 BEEKMAN ST. TEMPLE COURT. ROOM 171 NEW YORK.

DETROIT WHITE LEAD WORKS INCORPORATED DEC. 22d. 1880. SEAL

PAINT YOUR BUGGY FOR ONE DOLLAR!

—WITH—

DETROIT WHITE LEAD WORKS' CARRIAGE BLACK.

If you wish your gear in color, use our WINE COLOR, VERMILION, YELLOW or GREEN.

The original and best Ready-Mixed, Varnish Gloss,

CARRIAGE PAINTS.

Four years uninterrupted success and not a single comp'aint.

COLORS FOR GRINDERS AND MANUFACTURERS.

LOW PRICES BEST QUALITY

JOHN LUCAS & CO.,

Philadelphia 141 & 142 N. 4th St.; 322 to 330 Race St.

WM. E. LUCAS, 89 Maiden Lane. New York

has stopped business for the present, but the outlook is very encouraging. Discounts on American remain 75 and 10 per cent, and on French 70, 10 and 5 per cent. Buyers who have received or have notice of shipment of 100 boxes French, bought during the previous calendar month, get a rebate of 5 per cent, and those whose purchases reach $1,000 during that period get a 10 per cent rebate.

PLATE GLASS.

The demand for plate glass is very good, but the market is still somewhat unsettled in consequence of competition. Discounts are nominally 50&10@50, 10@5 per cent.

The Paint Trade and the Tariff.

The Tariff Committee of the Paint, Oil and Varnish Club of New York, consisting of Messrs. J. Seaver Page, chairman, W. F. Tiemann and M. D. Eger, desiring to obtain material to enable them to perform their duties properly and intelligently, have issued a circular to the members, requesting from each a concise statement of his individual industry as it exists in the United States. To facilitate replies, the following are given as headings under which each part of the statement may be elaborated; name of article, quantity imported per annum, quantity manufactured in the United States per annum, articles used in the manufacture thereof, and where obtained, uses for the article, average price in the United States, average foreign price, disadvantages of manufacture here as compared with the same industry in Great Britain and Europe, possibility of lower rate of duty without causing industry to suffer; would a specific duty be preferable to an ad valorem duty, and if so, why? Where exact figures cannot be given in answer to any question, the best estimate is requested. Information bearing upon the labor employed, together with the result to such labor should the industry become unremunerative is also desirable. If convenient the average rate of wages paid here and abroad to the laboring man employed in making the individual article s should be given.

We have been requested to urge members of the club to answer these questions at the earliest possible moment, and as completely as possible, as it is necessary that the committee should be able to begin their work at once.

The Glass Industry in Bavaria.

The raw glass manufacturers of Bavaria have determined to take energetic measures for putting down the overproduction, and have therefore decided to blow out the furnaces containing 8 melting apparatus, and in future only to build furnaces with 6 melting apparatus. If all the manufacturers are willing to submit to this arrangement, a few large firms are prepared to set aside their stocks for a whole year. The construction of new glasshouses is to be avoided as much as possible. The glass factory Kaiserslautern pays 16 per cent. dividend for 1887, as in the previous year.

Granite in Glass Making.

A glass sand company up in the state claims to have successfully experimented in grinding granite obtained on the long range of the somber Shawangunk mountain, and the result promises to revolutionize at least one part of the glassmaking business. Heretofore a certain kind of sand has been necessary in making glass but the experiments made show that granite is an excellent substitute. The company is fitting up its works, and several of the stones to be used as bed plates to grind the flinty granite to powder weigh over fifteen tons each. Work has been somewhat delayed by the recent collapse of a bridge under the weight of one of the immense stones referred to. Two more of these immense stones have been hauled from the quarries in the mountains to a dock at Kerhonkson, and upon the opening of navigation on the Hudson and Delaware Canal they will be taken there by boat. The Shawagunks have a national reputation for the millstone product, but fifteen-ton single millstones have never been used until now. The sand powder which is to be made from the flinty granite costs little or nothing.

Brush Manufacturers and the Tariff.

The brush manufacturers of this city are on the war path after the tariff bill. Many of them have signed a petition to be sent to Congress which protests against the proposed reduction of the import duty on brushes. The petition gives many strong reasons why a further reduction should not be made. One is that the business in England of manufacturing brushes has largely increased since the tariff was established, thus furnishing employment to many thousands of hands. There has been also a large reduction in the price of goods as well as a marked improvement in quality. The last reduction of duty some five years ago, from 40 per cent. to 30 per cent., had a disastrous effect upon the business of the petitioners, driving a number of them out of business. It also killed the manufacturing of tooth brushes by the petitioners.

A further reduction of the duty from 30 to 20 per cent. will have a ruinous effect upon the industry, it is argued, without doubt necessitating the closing of many factories, and causing great hardships to the workingmen and heavy losses to the employers, who have their capital invested in expensive machinery, worthless for other purposes. The last reduction of the duty on brushes was immediately followed by heavy importations of foreign-made goods; and it is certain that another reduction of the duties will cause a much larger importation than before, as the American manufacturers will be still less capable of competing successfully with foreign products. It is believed also that such increased importation would cause an increase of revenue to the Government, a result which the petitioners believe is not designed by Congress.

The brush men represent that the placing of bristles on the free list, thereby cutting off the present duty of fifteen cents per pound, would be only a slight compensation for brush manufacturers, supposing that the price of foreign bristles should not be advanced. Such a reduction, moreover, would not effect a saving to brush manufacturers of more than 1 per cent. on the manufacturer's product, while the proposed reduction of one-third of the duty would enable the importer to land French or German brushes at a saving of at least 8 per cent. At the present low prices this would represent to brush manufacturers the difference between success and failure.

Some of those who have signed the petition are Bradley & Smith, Hanlon & Goodman, J. M. C. Martin's Sons, Maurice Hellwig, Miles Brothers & Co., M. J. A. Keene, Herbert Brush Co., H. Rosenthal & Brother, J. McArthur & Co., F. Wilkinson & Co., Howard Brothers & Co., Florence Manufacturing Co., George W. Scott, John H. Baldwin, Edwin Mitchell, William P. Sherman, Richard Cahill, and C. P. Staab & Co.

A. C. PRINCE, President.
DAVID PRINCE, Sec'y and Treas.
(Sons of the late ROBERT PRINCE, Original Manufacturer.)

THE
Prince M'f'g Co.
71 MAIDEN LANE, NEW YORK,
SOLE MANUFACTURERS OF

PRINCE'S 72 lbs. Metal in the 100 lbs WARRANTED FIRE PROOF lbs. N.Y. METALLIC PAINT.

ESTABLISHED 1858.
An Indestructible Coating for TIN, IRON and WOOD.
BUT ONE COLOR MADE
BROWN.

CHAS M. EDWARDS & CO.
MANUFACTURERS OF
Blacking, Inks, Mucilage, Etc.,
11 Colburne Street, Toronto, Ont

Chilton Paints
COLORS IN OIL AND JAPAN.
Chilton Manuf. Co.,
147 Fulton St., New York.
141 Milk St. Boston.

RUTHERFORD'S
METALLIC BROWN.
Guaranteed the Best Paint in the market for
TIN, IRON AND WOOD.

TRADE MARK. RUTHERFORD'S METALLIC PAINT. 72 lbs Metal in the 100 lbs WARRANTED FIRE PROOF LBS PHILADA.

Contains No Grit.
Unequalled in Fineness.
Most Economical Material for
COLORING MORTAR.
Address all communications to
RUTHERFORD & BARCLAY,
MINERS AND MANUFACTURERS,
305 Chestnut St., Philadelphia.
Mines: Stony Ridge, Carbon Co., Pa.
Works: Lehigh Gap, Pa.

VANHORNE, GRIFFEN & CO.
IMPORTERS OF
FRENCH WINDOW GLASS and GERMAN LOOKING GLASS PLATES
MANUFACTURERS OF BENT GLASS.
131-137 FRANKLIN ST., NEW YORK.

PENINSULAR WHITE LEAD & COLOR WORKS DETROIT.
FACTORY.
Lieb St. from Transit R. R. to River Front.

Manufacturers of COLORS
Dry, in Pulp, in Japan, in Oil and in Distemper. Sole Manufacturers of
Maple Leaf Permanent Green,
Peninsular Permanent Red,
Peninsular Non-Corrosive Steel,
Color Paints.
Peninsular Wood & Iron Fillers.
Special inducements offered to large buyers on Vermilions, Chrome Greens and Yellows, Prussian, Chinese, Steel and Soluble Blues, etc.
CORRESPONDENCE SOLICITED.
FARRAND, WILLIAMS & CO.,
DETROIT,
General Agents.

French Auxerres Ochres.
We offer direct shipment from the works, at Manufacturers figures, Mess. Farqu Gauchery & Zagorowski, Auxerre, Burgundy, French Ochres J.C.* J.C.L. J.C.L.S., J.F., J.F.L. and J.F.L.S. in lots to suit.
DOGGETT BROS.,
BROKERS AND MANUFACTURERS' AGENTS IN
PAINTS, OILS AND CHEMICALS,
138 & 140 Maiden Lane, New York,
65 No. Front Street, Philadelphia,
112 Randolph Street, Chicago
Special Correspondents in all the principal domestic and foreign markets
Manufacturers' Selling Agents for Linseed and Cottonseed Oils,
Foreign and Domestic Umbers, Ochres and Siennas
Paint and Color, Oil Cloth, Paper and Wall Paper Manufacturers' Supplies and Clays a specialty

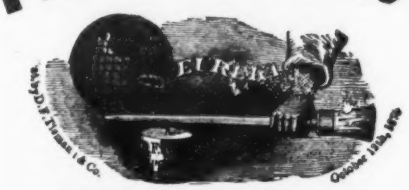
RICKARD & HEWITT,
Grinders and Manufacturers of
"NANTAHELA" TALC.
E. O. MURDOCK & CO., 104 John St. N. Y
SOLE AGENTS.
Quotations and Samples on Application.

WOOD ALCOHOL, ACETONE, ACETATE OF LIME, BLACK LIQUOR.
MANUFACTURED BY
WOOD EXTRACT COMPANY,
WORKS AT { North East, Cecil Co., Md. / Luther, Lake Co., Mich.
OFFICES: { Detroit, Mich, 52 Moffat Block, / New York, 150 Broadway, Room 64,
AGENTS:—New York Shellac Co., 229 Pearl St., N. Y
O. S. JANNEY & CO. { 10 Letitia St., Philadelphia. / 29 Pearl St., Boston.
D. C. LANDIS (for Alcohol only), 17 N. Front St., Phila.

W. E. CUTTER & CO.,
Manufacturers of
VENETIAN REDS
WORCESTER MASS.
EARLE & PRINCE, 71 Maiden Lane, N. Y.,
SOLE AGENTS FOR
NEW YORK and PHILADELPHIA.

R. J. WADDELL & CO.,
52 BEEKMAN STREET, NEW YORK.
HOYLE, ROBSON & CO., Newcastle England.
H . F.V.A **Venetian Red.**
Bright Oxide, Indian Red, Tuscan Red Drop and Ivory Blacks &c

JAMES P. BARNETT,
Importer and Manufacturer of Colors,
SPECIALTIES
OXIDE OF ZINC,
(FRENCH PROCESS.)
Lakes and Ruboide Vermilions,
Lowe's Carbolic & Cresylic Acids,
Colors for Wall and Glazed Papers,
NEW YORK OFFICE, 178 Front Street.
MAIN OFFICE AND FACTORY, 278 Passaic Street, Newark, N. J.

Established 1807.
Manhattanville Color Works,
D. F. TIEMANN & CO.,


MANUFACTURERS OF
English" or "California" **Quicksilver Vermilion,**
Pure No. 40 Carmine.
Soluble Blue, Paints and Colors,
Dry, in Oil, and in distemper,
Colors for Paint Grinders a Specialty.
Office, { 16 MURRAY ST., 19 PARK PLACE. | Factories, { MANHATTANVILLE, NEW YORK.

Edward Hill's Son & Co.,
25 & 27 Cedar St., N. Y.,
Varnish Gums and Shellac.
Kauri, Zanzibar, Manila, Damar, North Coast, Sierre Leone, Benguela, Asphaltum, Sandarac.

WILLIAMSBURG PAINT AND COLOR WORKS,
EDWARD HORE,
ANUFACTURER AND IMPORTER OF
COLORS.
VERMILIONS, LAKES, &c.
Specialties for Grinders, Paper Mfrs., Tissue Printers, ETC.
FACTORIES. Brooklyn, L. I. CHAS. E. HORE, Supt.
OFFICE, 62-68 North 11th St., BROOKLYN, E. D.

AM. BRONZE POWDER M'F'G CO.
Manufacturers of Superior Grades of
BRONZE POWDERS & BROCADES,
And their unexcelled and justly celebrated
LINING BRONZES, AND ALUMIUM SILVER BRONZE,
To which the attention of the Wholesale Trade is respectfully directed.
Factory at Verona, Essex Co., N. J.
Office and Salesroom, 6 MURRAY ST., NEW YORK.
WADSWORTH, HOWLAND & CO. OUR BOSTON AGENTS.

Established 1828.
The J. O. SMITH Mfg. Co.
MANUFACTURERS OF
Japan, Japanned Tin and Iron Plate,
FOR SIGNS.
WOOD AND METAL PANELS,
ARTIST SKETCH BOXES, ETC.
Price List on Application.
62 John Street, NEW YORK.

W. C. POPE & CO.,
VARNISH GUMS,
174 HIGH STREET, BOSTON.
Sole Agents in the U. S. for
damanta Varnish Gum.

Strictly Pure Paris Green.
QUICKSILVER VERMILION.
CHROME GREENS AND YELLOWS.
CARMINE.
SOLUBLE CHINESE AND PRUSSIAN BLUES.
Bronze Powders.
S. & A. London Gold Paint.
SONDHEIM, ALSBERG & CO. 54 MAIDEN LANE, NEW YORK. FACTORY, BROOKLYN.

ESTABLISHED 1857.
THE BURCEY CHEMICAL CO.'S
DIAMOND METHAL
AND REFINED
WOOD ALCOHOL.
Perfect substitues for Grain Alcohol for all mechanical purposes.
Binghamton, N. Y.
AGENTS:
WM. S. GRAY, 103 Maiden Lane, New York. | M. L. BARRETT, 56 & 58 Wabash Ave., Chicago
WM. H. SWIFT & CO., 117 Milk St., Boston.

Genuine French Orange Mineral.
TOURS' BRAND.
Is the finest, most brilliant and lasting in the World for Vermilion Manufacturers, &c
SOLE AGENT FOR THE UNITED STATES.
F. A. REICHARD, 15 Platt St., N. Y.

ESTABLISHED 1836.
S. ADLER & SONS,
MANUFACTURERS OF THE
S. S. F. Strictly Pure
Paris Green,
Chrome Greens & Yellows, Chinese, Prussian & Soluble Blues.
ALSO SOLE MANUFACTURERS OF THE CELEBRATED
MAGNESIA GREEN,
Corner Maiden Lane & Pearl St., NEW YORK.
Chicago Branch, 201 Randolph Street.

BILLINGS, TAYLOR & CO.,

FOOT CASE AVE., CLEVELAND, O.

16 PLATT ST., NEW YORK.

MANUFACTURERS OF

DRY COLORS.

A. A. Vermilion, (Perfect Imitation of Eng. Vermilion.)
Oriental Vermilion,
Persian Red,
Imp'd American Vermilion,
AND
Vermilion of lower qualities.

Chrome Yellow, ALL QUALITIES
French Standard Green. ALL SHADES.
Chrome Green, ALL SHADES.
Pure Chinese Blue,
Pure Prussian Blue.

A FULL LINE OF SUPERFINE COACH COLORS.

AND

Coach, Carriage & Car Varnishes

OIL WOOD STAINS,

OLD OAK, MAHOGANY, CHERRY, COCOBOLA, WALNUT, ROSEWOOD, EBONY.

Oil Colors, Mixed Paints, Tinted Paints, in paste form.

Descriptive Circulars and Samples furnished on application.

LOOS & SCHNEIDER

OFFICE: 26 & 28 Frankfort St., N. Y.
FACTORY: Astoria, L. I.

MANUFACTURERS OF

Bleached and Refined Shellacs
Lacquers and Oil Soluble Aniline Colors

IMPORTANT

To House Painters, Decorators, Boat Builders, Yachtsmen. Architects, and Builders desiring an EXTREMELY DURABLE Finish for Wood

ROSENBERG'S

TRADE ELASTICA MARK

FINISHES,

No. 1 & No. 2.

Are superior to any **Varnishes** or **Wood Finishes** in the marke for the following reasons, viz. They possess **more body, higher lustre, greater resisting properties to atmospheric influences, action of water and alkali, are more elastic, will not scratch or mar white,** and **are more durable**

For all classes of **INSIDE WORK** requiring **great durability** use **No. 2 ELASTICA FINISH.**

For **OUTSIDE WORK** requiring extreme durability, use **No. 1 ELASTICA FINISH.**

MANUFACTURED BY

Standard Varnish Works.

WORKS,
734-749 E. 14th Street.
733-739 E. 13th Street.
99-207 Avenue D.

D. ROSENBERG & SONS

Office, 207 Avenue D, New York.

THE WALKER GUM CO.

WALKER'S well known VOWEL BRANDS OF KAURI AND OTHER

VARNISH GUMS,

GILBERT POTTER & CO.

SOLE AGENTS,

164 Front St., NEW YORK.

All Paris White Sold or Delivered is the Production of my own Factory.

WESTMINSTER

ENGLISH — T. WEDDLE & CO. TRADE MARK NEW-YORK. — CLIFFSTONE.

PARIS WHITE.

"WESTMINSTER" PARIS WHITE

The Standard Brand, always of uniform quality.

Whiting, Gilders' Whiting

AMERICAN PARIS WHITE, LUMP CHALK.

Also, Kiln Dried and Bolted Whiting, superior to any other manufactured for the use of Rubber and Oilcloth Manufacturers.

H. F. TAINTOR,

(Successor to Thos. Weddle & Co.)

281 PEARL STREET, NEW YORK.

A VARNISH

NOT AFFECTED BY

AMMONIA

Arising in the stable, at the same time having a sharper luster than any Imported or American Varnish that has yet come to our notice.

Every can is sold with a guarantee that the Varnish will not be affected by Ammonia, as stated above, and

Will Cloud or Smoke Up Less

than any other Varnish. This is true of both our Gearing and Finishing Varnish. Address:

GRACE & CO.,

MANUFACTURERS

122 to 126 Larrabee Street, CHICAGO.

After Trying our Varnishes, if for any reason whatever you wish to return them, you can do so at our expense.

CORRESPONDENCE SOLICITED.

COMPOSITION PUMICE STONE.

Schmirgelsteine
No. 3. II.
Fabrik
This Composition Pumice Stone for convenience, economy and effect is very superior to the volcanic or natural stone for every art or manufacture in which the latter is used, not only because it is entirely free from all foreign substances, which injure and interrupt the work (causing both trouble and expense), but also that it is furnished in a very tractable shape and in every texture of grain, and of hardness required for the various kinds of work.

M. SIEBOLD, Sole Agent,

44 VESEY STREET NEW YORK.

Pfeiffer & Lavanburg,

MANUFACTURERS OF STRICTLY PURE

PARIS GREEN,

Chrome Greens, and Yellows, Blues, Carmine, Lakes, Etc.
DRY AND PULP COLORS, QUICKSILVER VERMILION,
"ORIOLE" VERMILION, (The Best Substitute for English Made.)

FACTORY: Atlantic Color Works, Brooklyn

OFFICE AND STORE: 165 William St. New York.

Manganese, ASPHALTUM,

VARNISH GUMS. &C.

JOHN S. LAMSON & BRO., 77 Maiden Lane, New York,

Beware of Imitations!

AS SUCH ARE ABOUT TO BE PUT INTO MARKET

PURPORTING TO BE

The Harris Paint Mill

OR IMPROVEMENT THEREON.

Having purchased the late Oliver C. Harris Paint Mill Manufactory, with all patterns from the commencement of his Paint Mill business to the present time, and good will in trade. Would respectfully call attention of Paint Mill dealers, when in want of GENUINE HARRIS, or IMPROVED BERRILL PAINT MILL, or repairs for same. All sizes. Also Water Cooled Mills for Coach Colors. Composition mills for Water Colors. Single and on Bench. Any number run by One Belt, to address

J. A. BERRILL & SON,

ESTABLISHED, 1837. WATERVILLE Oneida Co. N. Y.

WANTED.

A thoroughly reliable and well established Paint Commission House to handle a brand of Dark Maroon Metallic Paint, of uniform color, excellent body, and large covering capacity.

This paint is adapted to all kinds of in-door and out-door decoration. It is equally available forthe finest panel work on Palace Cars or Carriages, as well as for Wood and Metal work of everydescription, and can be sold at a price which will insure its extensive use. The output of the Works amounts to several hundred tons per annum.

None but parties of the highest responsibility will be considered; and to such the exclusive sale of this brand will be committed. Address LOCK BOX No. 3, Wilmington, Del

---

CHATTANOOGA PAINT CO

Chattanooga, Tenn.

MANUFACTURERS OF

A Superior Grade of Red Oxide of Iron Paint.

Over 15,000 Tons Sold since 1880.

Best in the Market for Tin, Iron or Shingle Roofs, Railroad Cars, Iron Bridges, Mortar Coloring, Stove Putty, Barns, Fences, Outbuildings or any place where protection from the weather is desired.

Prices, Freight Rates and Samples Sent on Application.

Hoyle, Robson, Barnett & Co

Late, HOYLE, ROBSON & CO.,

Newcastle-on-Tyne, ENGLAND.

Iron Oxides and Colors for Grinders and Jobbers.

J. W. BINNEY, Sole Agent, 227 Pearl St., NEW YORK.

GABRIEL & SCHALL,

IMPORTERS OF

CRUDE AND POWDERED (SWOOD) BARYTES,

Dry Colors, Blanc-fixe, Chloride of Barium, Nitrate of Barytes and Strontian, Borate of Manganese, Portland Cement, Asphalt Mastic, Fire Bricks, &c.

205 PEARL ST., NEW YORK.

BRONZE POWDERS

Extra Fine American Gold Paint and Liquid Gold Silver, Imitation Gold Leaf and Dutch Metal.

Manufactured and imported by

George Meier & Co.,

135 & 137 William St. NEW YORK

Established 1836.

JOHN J. BUDD,

MANUFACTURER OF

WHITING FRESCO, PUTTY, &c.

149 Bank Street, New York City.

For 1st Coat, one pint of water to a Pound.

MANUFACTURER

For Whitening and Coloring Walls, Ceilings, etc.

Mix with hot water and use when cool.

JOHN J. BUDD, FRESCO 149 BANK ST. N.Y.

Registered TRADE MARK.

For 2d Coat, one pint and a half of water to a pound.

Correspondence Solicited.

STRICTLY PURE

PARIS GREEN

MANUFACTURED BY THE

Brooklyn Color Works,

RICHARD LOEWENTHAL, Propr.

69 & 71 Wythe Avenue, Brooklyn, E. D.

Prices Mailed by Return on Application.

COOKSON'S

Venetian Red,

THE LEADING BRAND.

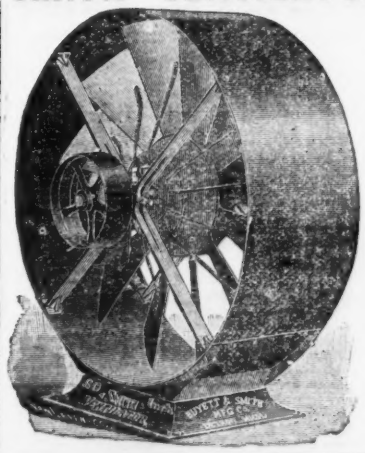
This article is Superior in Strength, Color and Fineness to all other makes, and owing to improvements in its manufacture is now better than ever before. It is handled by all the leading Color Houses throughout the country.

Special prices and terms for round lots can be had from the Agents,

EDWARD HILL'S SON & CO.,

25 & 27 Cedar Street, NEW YORK.

SMITH VENTILATOR AND DRYING FAN.



We pay especial attention to the fitting up of

Chemical and Pharmaceutical Laboratories,

Paint and Glue Factories and White Lead Works,

with Ventilating and Drying Apparatus. Removing Dust, Steam, or Foul Air from work rooms most effectually.

We can Increase the Capacity of Drying Rooms at a Reduced Temperature.

Correspondence and inquiries solicited. Information freely furnished. Send for Circular.

HUYETT & SMITH MFG. CO.,

Sole Manufacturers and Patentees.

No. 1,300 Russell St.,

DETROIT, MICH.

TESTIMONIAL.

HARRISON BROS. & CO. GRAY'S FERRY CHEMICAL WORKS. PHILADELPHIA, PA., Nov. 5, 1887.

Mr. John F. Riday, New York:

DEAR SIR:—In answer to your inquiry regarding Ajax Metal Co. Acid Proof Metal, I have to state that we have used this Metal for acid cocks, throughout the works and give it full endorsement, before adopting the same for this purpose, we had it tried in the Laboratory and found that the loss after treating the same with acids of various strengths, hot and cold was very small. The largest loss is in the beginning of the treatment: afterwards a coating of oxide which forms on the metal protects the same from further corrosions, so that the loss is very small by further immersions. *We* discarded stoneware spiggots entirely and substituted the *Acid Proof Ajax Metal* instead. Respectfully yours,

C. SEMPER, Gen. Supt. of Gray's Ferry Chemical Works.

AJAX ANTI ACID AND ALKALI METAL

IS MANUFACTURED ONLY BY

THE AJAX METAL CO., Philadelphia, Pa.

ESTABLISHED 1832 TRADE VALENTINES MARK 1882 INCORPORATED

Valentine & Company NEW YORK

MANUFACTURERS OF

CHICAGO · BOSTON · PARIS ·

COACH & CAB VARNISHES & COLORS

SOUTHERN COMPANY TRADE MARK WARRANTED STRICTLY PURE WHITE LEAD IN OIL OF ST. LOUIS & CHICAGO. MO.

Southern White Lead Co.,

Manufacturers of Strictly Pure

White Lead, Red Lead and Litharge,

ST. LOUIS AND CHICAGO.

FACTORY IN ST. LOUIS, Corner Main and Lombard Sts.

FACTORY IN CHICAGO, Corner 16th & Brown Sts.

McBIRNEY & JOHNSTON CO. STRICTLY PURE WHITE LEAD CHICAGO

We desire to call attention to the fact that the Southern White Lead Co. now has two factories, one in St. Louis and the other in Chicago.

The "Southern Company" Brand of Strictly Pure White Lead will be manufactured in St. Louis and Chicago by the same Chemical and Mechanical processes, both factories being under the same careful and experienced superintendence, and are fully equipped with the most modern improvements and appliances for the economical and perfect manufacture of the product. Great care is taken in the selection of the Pig Lead and Oil, also in corroding, washing floating, drying and grinding the product, so that it is of a uniform color, body and texture, and as twenty years' experience has shown, pleases in every respect the most experienced and particular painters. We call your special attention to our Brands at the head of this sheet.

Every package of our Lead bears a guarantee of its absolute purity, printed in crescent shape. *And as the Company manufactures only strictly Pure Lead*, parties buying White Lead branded "Southern Company" *can make no mistake*, and are *absolutely sure* of obtaining a *perfectly pure article.*

The Company as successors to the business of the McBirney & Johnston White Lead Company of Chicago, will also manufacture and continue to sell the "*McBirney & Johnston Co.*" *Brand of Strictly Pure White Lead*, which has been largely sold and has acquired a fine reputation.

As St. Louis and Chicago are the two best distributing points for the South, West and North-West, we can quickly and economically reach all the Trade in these sections, shipping from either city as may be most convenient in time, and cheapest in freight rates to the buyer.

We hope to merit a continuance of the patronage and good will of the dealers in and consumers of White Lead, which we have enjoyed so long.

SOUTHERN WHITE LEAD CO., Cor. Main & Lombard Sts., St. Louis, Mo. SOUTHERN WHITE LEAD CO., Cor. 16th & Brown Sts., Chicago, Ills

---

The Acme Paints will suit the taste of the most fastidious.

ACME WHITE LEAD AND COLOR WORKS

DETROIT.

MANUFACTURERS OF

Neal's Carriage Paint,
Granite Floor Paint,
Acme Sash Paint,
Acme Decorative Paint,
Acme Interior Fresco Paint,
Acme Wagon and Implement Paint,
Acme Prepared Paint,
Pembroke Liquid Paint,
Adamant Exterior Paint,
Adamant Barn and Roof Paint
Pembroke Metallic Paint,
WHITE AND TINTED LEADS,
DRY COLORS,
Colors in Oil, Japan or Distemper,
White Zincs, Putty,
Wood Filler,
Varnishes, etc., etc.

Sample Cards and Prices on Application.

THE QUALITY OF OUR GOODS CANNOT BE SURPASSED.

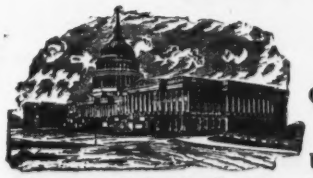
CHAS. M. JUNE, General Eastern Agent, 359 Pearl Street, NEW YORK.

THE GOVERNMENT WATERPROOF PAINT CO.

MANUFACTURERS OF

GOVERNMENT WATERPROOF PAINTS,

BELT DRESSING AND CEMENT.



This Paint retains a beautiful gloss without a particle of Varnish in it, and will stay on Spruce where all other known paints fail to stay but a short time.

It contains a pigment which renders it thoroughly **WATERPROOF** and unlike all other known paints possesses in a remarkable degree immunity from harm when subjected to attack from ammonial vapors Our Belt Dressing and Cement are unequalled.

Office, 167 Milk Street, BOSTON, MASS.

Factory at MALDEN, MASS

CORRESPONDENCE SOLICITED.

YELLOW OCHRE

Of Most Superior Quality.

The product of our own extensive Mines and Mills, carefully prepared under the supervision of a skilful and experienced manager.

SAMPLES AND PRICES FURNISHED THE TRADE ON APPLICATION.

GAYLE & SEMPLE, MONTGOMERY, ALA

VARNISH MAKERS. PRATT & LAMBERT

PRATT'S LIQUID DRYER. 47 JOHN ST. NEW YORK

JOHNSTON'S
DRY SIZED
KALSOMINE
AND
FRESCO PAINTS.
FOR
Coloring Walls and Ceilings.

READY FOR USE.

ABSOLUTELY RELIABLE!

Gold Medal, New Orleans, 1884-5.

EIGHT FIRST-CLASS AWARDS.

CHEAPER than WALL PAPER or OIL PAINT.

Pure White, and Beautiful Tints.
Will not rub or scale from the Wall.

Invaluable for cleansing and **disinfecting walls** impregnated with germs of disease.

Mixed in five minutes ready for the brush, by the addition of water only.

Five pounds will cover with a good body, 500 square feet, on hard finished walls. Ask for

"JOHNSTON'S Dry Sized KALSOMINE,"

and see that you **do not get any poor substitute.** For sale by Paint and Drug Dealers everywhere. Send for sample card and prices to

DRY KALSOMINE AND FRESCO PAINT WORKS,
25 & 27 John St., Brooklyn N. Y.

BURGESS & NEWTON
NEW HAVEN, CONN.,
MANUFACTURERS OF
FIRST QUALITY
Pure Sulphate Barytes.
Would call the attention of Buyers to the SUPERIOR QUALITY OF OUR MANUFACTURE.

BONE BLACK
FOR FILTERING AND MANUFACTURING PURPOSES.

Size No. 1. For Glucose and Grape Sugar Refineries.
Size No. 2. For Cane Sugar Refineries.
Size No. 3. For Oil and Paraffine Refineries.
Size No. 5. For Beet Sugar and Sorghum Refineries
Ivory Black, for the Paint and Blacking Trade

Orders Solicited. Samples and Prices on Application
ADDRESS,
Michigan Carbon Works
DETROIT, MICH.

WHEN BUYING
BRUSHES
BUY THOSE MANUFACTURED BY
JOHN L. WHITING & SON.

USE THE WHITING BRUSHES
MINE GOTT! I MUST DO ME SOME FIGHTING
MY WHITING'S BRUSHES HE'S BITING
MINE FINE PICTURE TOO THAT HOG HAS SONE THROUGH
I WILL SEND HIS OLD SKIN TO JOHN WHITING

WHY? Because they are the BEST and the prices LOWEST POSSIBLE If you have never sold them be sure and give them a trial. They are for sale in every city, and nearly every town in the United States. If your jobber does not supply you with them, let us know, and we will send you name of one who will.

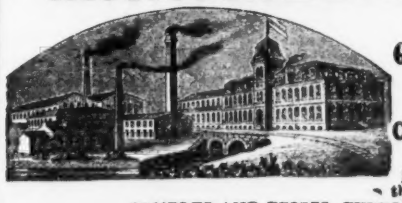
BE SURE THAT OUR NAME IS PLAINLY STAMPED ON EVERY BRUSH YOU BUY. Our Brushes are so popular that many inferior imitations are being offered, which are unprofitable to buy at any price compared with ours.

You will make Money, you will please your Customers by handling Whiting's Paint, Varnish, Sash, Wall, Whitewash, Kalsomine, Shaving and Artists' Brushes and Pencils.

MANUFACTURED ONLY BY
John L. Whiting & Son Boston Mass.

ESTABLISHED 1837.
HENRY WOOD'S SON & CO.,
BOSTON, MASS.,
SOLE MANUFACTURERS OF
THE CELEBRATED

MARSEILLES GREEN
Or Paris Green Substitute.
MARSEILLES COLORS.
QUEEN ANNE PAINTS,
Greens, Yellows, Vermilions, Carmines, Lakes, &c., &c.
AND EVERY DESCRIPTION OF
Coach, Car and House Painters Colors.



Received Highest Award GOLD MEDAL at the World's Exposition, New Orleans, 1884-85.
SAMPLES AND PRICES FURNISHED ON APPLICATION.

North River Whiting Mills
FRANK MALONE & CO., Prop's.

MILLS, 535, 537 and 539 West 14th Street.

WELLINGTON TRADE MARK FRANK MALONE & CO. NEW YORK
ENGLISH CLIFF STONE PARIS WHITE.

MILLS, 538, 540 and 542 West 15th Street.

MANUFACTURERS OF
English Cliffstone Paris White, Putty,
Commercial, Gilders, Kiln Dried and Bolted Whiting.
Telephone, 655, 21st St. **NEW YORK.**

THE STANDARD MINERAL COMPANY
Miners and Millers of
SILICA, FELSPAR, MARBLE, ETC.
OFFICE: 153 Maiden Lane, New York.
WORKS: Port Morris, New York

LEECH, NEAL & CO., Derby England.
MANUFACTURERS OF
SUPERIOR ENGLISH VENETIAN RED.
INDIAN, TURKEY and VENETIAN REDS.
Purple Browns. Metallic Oxides, &c.
The Largest Producers in the World.
WORKS, SPONDON AND DERBY.
SAMPLES APRICES ON APPLICATION.
New York Agents, Messrs. G, A & E. MEYER, 30 Cliff Street, New York.
SUPERIOR ENGLISH **HB** VENETIAN RED.

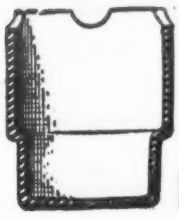
LEHIGH OXIDE OF ZINC

VICTORIA VENETIAN RED, WHITING, BARYTES and a full line of PAINT GRINDERS' COLORS.

THE S. P. WETHERILL CO., Limited. 47 NO. FRONT ST. PHILADELPHIA. 112 JOHN STREET, NEW YORK.

Proprietors of the CRESCENT CHEMICAL WORKS. Sole Agents for the Sale of the LEHIGH ZINC AND IRON CO.'S Products.

PETER H. DECKER



INVENTOR AND PROPRIETOR OF

PATENT

Glass Corroding Pots,

(PATENTED AUG. 24, 1886.)

—AND—

Improved Bed Pipes for Lead Corroding Houses.

ELLENVILLE, N. Y.

SAMUEL CAREY,

17 Broadway, New York.

IMPORTER OF

Burr Stones and Bolting Cloths.

MANUFACTURER OF

MILLS FOR GRINDING GRAIN, PAINT, &c., &c.,

And Dealer in Mill Machinery of all kinds.

Send for Prices.

A. HITCHCOCK, President. GEORGE F. NEALE, Manager. C. W. BARNES, Treasurer.

CRYSTAL PLATE-GLASS CO.,

(CAPITAL, $1,500,000.)

MANUFACTURERS OF

POLISHED PLATE-GLASS,

SKYLIGHT GLASS, FLOORING GLASS.

ST. LOUIS, MO.

GILBERT S. KING, Agent, 102 Chambers St., NEW YORK.

Long Island Paint & Color Works.

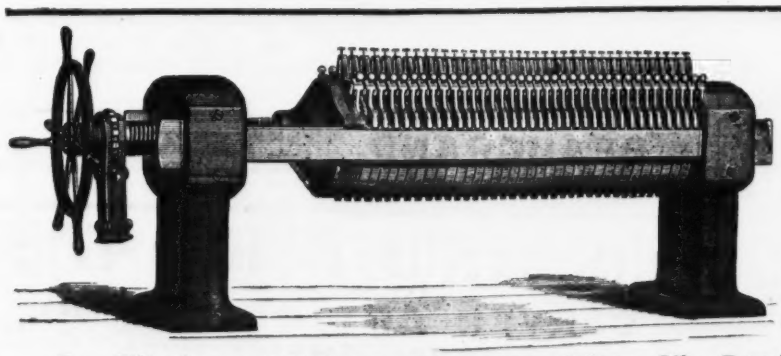
GEO. H. HOPPER,

MANUFACTURER OF

PETROLEUM BARREL PAINTS.

OF ALL COLORS.

S. G. NEWCOMB, Manager. Office: 26 Broadway, New York.



IMPROVED

FILTER PRESSES.

MANUFACTURED BY

The G. H. BUSHNELL CO.,

For Filtering and Refining China Clay, Colors, Oils, Paraffine Wax, Prussian Blue, Syrups, Yeast, Etc., Etc., Etc.

Also Manufacturers of

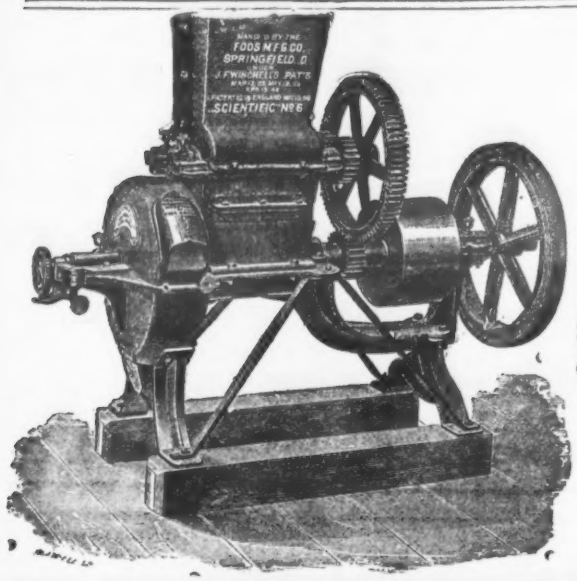
Patent Nuckle-Joint Presses, and Iron Machinery Castings.

PRESSES FOR NEW AND DIFFICULT WORK A SPECIALTY.

ALSO MACHINERY CONTRACTORS.

THOMPSONVILLE, CONN.

N. Y., N. H. & H. R. R. (the main line between New York and Boston), 17 miles north of Hartford, Conn., and 9 Miles south of Springfield, Mass.



THE SCIENTIFIC MILL

FOR GRINDING

Tankage, Guano, Phosphate, Phosphate Rock, Fish Scrap, Manure, Meal, Ammonia Salts, Fire Clay, Burnt Brick, Coke, Drv Clay, Crackers, Buiscuits, Salts, Borax, Black Lead, Soap Powder, Soda Ash, Starch. Sal Soda, Coffee Extract, Drv Ochres, Umbers, Siennas, &c., &c., has no equal,

Will make experiments and report results, without charge, on any Special Work. Correspondence solicited.

The Foos Manufacturing Co.

SPRINGFIELD, OHIO.

Meriam & Morgan Paraffine Co.

CLEVELAND, O.

Manufacturers of

COLD PRESSED PARAFFINE OILS,
REFINED PARAFFINE WAX,
PARAFFINE WAX CANDLES,
PARAGON AXLE GREASE.

"PARAGON SPINDLE" OIL,
OILS for GENERAL MACHINERY,
"CURRIERS' FINISHING" OIL.

Chicago Office, 110 Lake St.

Branch Office 32 Oliver St., BOSTON, MASS.

Direct Receivers, Importers and Dealers in

PURE COD OIL

Newfoundland & Domestic,
WHALE, SPERM, FISH, BANK, STRAITS & MENHADEN OILS.

MEDICINAL COD LIVER OIL

Prices and Samples Furnished.

PARAGON AXLE GREASE

George Delano's Sons.

Sperm, Whale and Menhaden Oils,

Refined Spermaceti, Sperm and Paraffine Candles.

WHALE AND FISH PRESSINGS,

SPERM, WHALE AND FISH OIL SOAPS.

Factory, New Bedford, Mass. 140 FRONT STREET N. Y.

Josiah Macy's Sons,

GENERAL COMMISSION MERCHANTS,

189 & 191 FRONT STREET, NEW YORK

Manufacturers of the Celebrated Brand

"Macy's Prime" Lard Oil.

SPERM, LARD, WHALE, COTTONSEED, ELAIN AND RED OIL,
"CLEMENTS" CORN STARCH, IN BOXES AND BARRELS, for Export and Manufacturers use. AGENTS FOR L. Z. O. OXIDE OF ZINC,
WESTERN AND SOUTHERN PRODUCE SOLD ON COMMISSION.

J. N. KNOWLES, Manager. EDWIN L. GRIFFITH, Secretary.

ARCTIC OIL WORKS

MANUFACTURERS OF

Sperm Whale, Elephant & Fish Oils

Spermaceti, Sperm Candles,

WHALE AND FISH PRESSINGS,

SPERM, WHALE AND FISH OIL SOAPS

OFFICE, 28 CALIFORNIA STREET,

San Francisco, California.

S. W. KNOWLES & CO., 82 Front St., New York, Eastern Agents.

INGALLS & COMPANY,

(Works, Grand Trunk Junction,)

Illuminating and Lubricating Oils,

AGENTS FOR

Wilson & Evenden's Oil Tanks and Shipping Cans

OFFICE No. 46 JEFFERSON AVENUE - - - DETROIT MICH.

We Will Buy Good Second-Hand Carbon Oil and Naphtha Barrels.

N. K. Fairbank & Co.,

OFFICES AND FACTORIES AT

CHICAGO - ST. LOUIS - OMAHA - NEW YORK.

PRINCIPAL OFFICE AT CHICAGO.

Address, New York Office at 218 Produce Exchange.

We call especial attention of the Drug Trade to our

FAIRY SOAP."

The "Fairy" Brand is the Purest Soap ever manufactured. We warrant it far superior to any imported Castile Soap. Send us a trial order.

Lard Refiners, Oil Pressers, Soap Makers.

MANUFACTURERS OF

Extra Double Refined Acidless Lard and Tallow Oils

AS WELL AS ALL GRADES OF

Lard Oils, Tallow Oils, Neatsfoot Oils.

—REFINERS OF—

ACIDLESS CYLINDER TALLOW.

Our Acidless Products are warranted not to contain above one-quarter of one per cent. of Free or Fatty Acid.

N. K. FAIRBANK & CO

N. B.—The best brands of Butchers' and Packers' Tallow contain from one to ten per cent. fatty acid.

R. BEAUGRAND,

Manufacturer and Wholesale Dealer in Canada and foreign Oils.

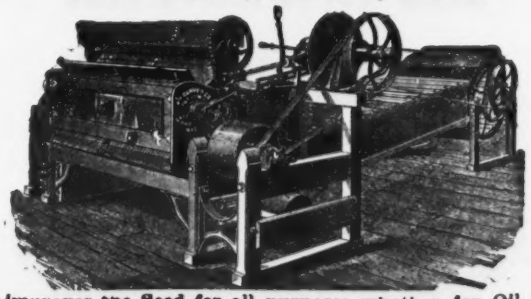
Sole Agent in CANADA for the Celebrated CRYSTAL OIL. Office and Warehouse No. 13 ST. THERESE STREET. MONTREAL.

LATEST IMPROVED COTTONSEED LINTER

MANUFACTURED BY

CARVER COTTON GIN CO.,

EAST BRIDGEWATER, MASS.



This Linter improves the Seed for all purposes, whether for Oil, Feeding to Stock or Planting. Correspondence solicited.

OIL MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small lots must expect to pay an advance on these figures.*

The prices current will be found on page 49.

Vegetable Oils

TUESDAY EVENING, March 13, 1888.

The linseed oil market remains steady at 56c for city oil including Calcutta, and 54c for Western on spot. No fresh developments have occurred, and while little business is passing, owing to the severe weather, values are well maintained, and will likely be for some time.

The cotton oil market was inclined to gather new forces of strength when the worst of all blizzards came, and paralyzed business for the time being. Since Saturday sellers and buyers have been resting on their oars, and according to the size of the snowdrifts which impede traffic, very little business in the delivery line can be done for a few days. Last Wednesday there was a sale of 100 bbls prime crude oil at 34½c, and a round lot of prime summer yellow was offered at 41c, without buyers. On Thursday there were buyers of crude at 34½c, but none was offered under 35c, while summer yellow could not be moved at 41c except a lot of 200 bbls. choice oil for export which realized 42c. It was developed on Friday that the buyer of the 100 bbls. crude at 34½c was not satisfied with his purchase and asked the oil committee to decide between the sample and the lot purchased, and had the wintry elements not interfered, the matter would have been inquired into, Saturday's business only resulted in a sale of 150 bbls. off color crude at 32½c, and for prime oil it is said that 35c was bid, but the information has not been confirmed. Since that day, operators in the market have either been detained at home by the lack of transportation, or occupied their time in ascertaining how they were to go to and from business, hence no additional sales have been made. There is a disposition among sellers to strengthen their views on crude oil because lard refiners prefer it, but the latter have sought to check the upward tendency by purchasing direct from the primary markets on the quiet. Taken altogether, the market at last accounts was on a steady basis.

Exports of cottonseed oil from New York by countries

To	For Week ending Mch. 12, 1888. Bbls.	Since Sept 1, 1887. Bbls.	Same time last year Bbls
Africa	2	4	....
Arg. Republic	..	....	10
Australia	..	104	47
Austria	..	2678	....
Belgium	25	3559	1055
Brazil	..	100	214
Br West Indies	30	411	759
Br Guiana	..	1	....
Canary Islands	..	....	....
Central America	3	10	15
Chili	16	19	162
China	..	....	....
Cuba	..	..	1
Dan West Indies	..	79	82
Denmark	..	1	4
Dutch West Indies	..	7	4
Ecuador	..	1	3
Egypt	..	....	....
England	53	1872	1560
France	500	11542	2834
French West Indies	..	14	646
Germany	50	772	617
Hayti	..	19	33
Italy	..	920	500
Mexico	..	39	3
Netherlands	100	11727	20136
North America	..	113	9
Norway	..	450	..
Peru	..	....	....
Pto Rico	..	24	1
Scotland	..	110	100
Spain	..	110	....
Turkey	..	....	....
U S Col	..	34	28
Venezuela	..	12	18
Total	779	35595	29102

Exports of cottonseed oil from New Orleans by countries:

To	For week ending Mch. 9, 1888. Bbls.	Since Sept. 1, 1887. Bbls.	Same time last year. Bbls
Austria	..	....	....
Belgium	..	3360	360
England	..	500	....
France	..	1420	....
Germany	..	1658	760
Gibraltar	..	....	3200
Italy	..	1608	1000
Netherlands	..	13293	....
Portugal	..	....	....
Spain	..	2500	2000
Total	..	24339	7310

Exports of soap stock from New Orleans by countries:

To	For week ending Mch. 9, 1888. bbls.	Since Sept 1, 1887. bbls.	Same time last year. bbls.
Cuba	..	....	....
England	..	....	1990
Italy	..	....	2
Spain	..	....	..
Total	..	....	1992

Ceylon cocoanut oil is difficult to move at 5¾@5¼c from store. Cochin oil is also quiet at 6¼c, with probability that a lower figure would buy important lots. Following are the London statistics on cocoanut for March 1:

	1888.	1887.	1888
Stock ..... Net tons	1,664	1,367	1,450
Landed, February "	365	305	4
Delivered, " "	270	204	184
Afloat ..... "	1,262	2,105	2,512

Olive oil is steady at 70@74c for Italian and Spanish oil respectively, with the former scarce.

Animal and Fish Oils.

Lard oil is generally quoted at 63½@64c for prime city and Western brands, and it is said that 65c is realized for some brands, while on the other hand it is claimed that 63c will buy certain makes of city oil. The same uniformity of prices which formerly characterized this market is lacking, and close competition has taken its place. Western brands are gaining ground and generally quoted on an equal footing with city brands, while it was previously the custom to ask about 2c per gallon less. Actual market values in any of the markets were difficult to obtain on Tuesday, as most of the business houses were closed.

Oleo oil is lacking support from Holland, and prices here have a weak tendency.

Elaine is meeting with a moderate demand at the usual price of 32c per gallon less 1 per cent. Saponified oil is held at 4¼@4½c.

Crude sperm oil is nominally held at 70c by New Bedford parties, but this figure is above the views of buyers. No business has resulted.

Whale oil has no fresh features. The trade are awaiting arrivals from the Pacific coast, but in the meantime are not pressed for supplies.

Whalebone is fluctuating between $2 40@2 50 per lb. for Arctic bone. The last business was at $2 40.

Crude menhaden fish oil continues to attract interest, and although holders are demanding 28@30c, it is claimed that 27c will buy, which is evidence that the faithful adherence to the resolution agreed upon by the fishermen not to commence operations until July 1 is doubted. The business since March 1 has aggregated 1,000 bbls in lots, and it is supposed that but little of this oil was purchased for consumption. Pressers find their wants more important, but the limited demand for pressed grades is making the supply last longer than expected, and crude is bought only to fill necessary requirements. Manufacturers are gradually advancing their views to correspond more with the values of crude, and the market is expected to change in the near future against buyers.

Mineral Oils.

There has been no opportunity for a change in mineral lubricating oils. No deliveries have been made since Saturday on account of the storm and it looks as though the week may pass without much business, as transportation facilities will be slow to resume their former position because of the snow blockade. Prices are steady on the former basis. Paraffine oils have had a good sale as usual at 10¼@11c for 25 gravity, and 28 gravity at 8½@9c.

Oil Cake.

No business has been done in this line since Saturday, and values are expected to remain nominal during the remainder of the week. Western and State cake on spot are said to be valued at $25 25, and Calcutta cake at $26 50. Stocks are light, and shipments are made abroad direct from the West, which dispenses with handling here.

Wax, Lard, Tallow, Etc

Crude paraffine wax has been moving moderately well at former prices of 4½@4¾c for 124@126 melting point, and as these grades are principally called for, there is no interest in other features of the market. The production of 130 test is still limited but sufficient to meet the demand. Refined paraffine wax is still quoted at 9@9½c for 134@136 melting point, and business is slow.

Lard speculation has met with a drawback by the storm which kept operators at home, and prices have not been altered since the trading on Saturday when cash lard was sold at 8 03@8.05c. City steam is steady at 7 65c, Refined lard is quoted at 7 90@8 00c.

Lard stearine is quiet at 8½c, which is a nominal figure. Oleo stearine is in demand and firm at 6⅞@7c, the latter being the highest figure reached for some time. Sales were made at 7c, and holders are not inclined to shade it.

The tallow market has been inactive since last writing, and quoted at 4⅝c. The feeling is steady however, and no weakness in the market is expected.

Naval Stores.

Spirits of Turpentine.—The market for this article has been somewhat easier during the past week, and at the close to-day the prices showed a decline of 1½c from that ruling at the same time last week. The trading up to Monday morning has been moderate and only job-

REED, HALL & HEWLETT

18 & 20 PLATT ST., NEW YORK.

MANUFACTURERS AND SHIPPERS OF

Animal, Vegetable and Mineral OILS.

Valve, Cylinder, Signal, Machinery Engine and Lubricating Oils.
Sperm, Lard, Tallow, Neatsfoot, Whale Elephant, Seal, Cod and Fish Oils.

Pure Spanish and Italian Olive Oils.

All grades of Pure Olive Oil Soap for Silk and Worsted Mills, either in bulk, bars or powdered.
Saponified Red and Elaine Oils.
Mineral Wool Oils and Wool Stocks
Castor, Rape, Mustard and Cottonseed Oils
Paraffine Oils, Paraffine Wax and Beeswax.
All kinds of Lubricating and Axle Greases
Tallow, Lard and Cottonseed Grease for Soap Makers.

SOLE EASTERN AGENTS
FOR THE
West Virginia Oil Company
PARKERSBURG, W. VA.
Producers of Pure Natural West Virginia Rock Oils.

Future City Oil Works.

J. J. POWERS & CO., ST. LOUIS, MO.,
Refiners and Manufacturers of CRUDE, REFINED AND BLEACHED
COTTONSEED OILS.

Pure Winter Pressed Miners' Oils, White and Yellow, the best BURNING ever prepared for Miners' use; Superior to LARD OIL and at LESS COST! Guaranteed to remain limpid at Freezing Point.

OF **Salad Oils,**

PARAGON (TRADE MARK.) COOKING OILS

Purely Vegetable
Cottonseed Oil, Cake and Meal Reginnings & Soap Stock
CORRESPONDENCE SOLICITED.

ELAINE OIL.

The Emery Candle Co., CINCINNATI, OHIO.
Cornwall & Bro., LOUISVILLE, KY.

CLAYTON ROCKHILL,
COMMISSION MERCHANT,
30 Platt Street, - NEW YORK.
GENERAL EASTERN AGENT.

F. W. BRODE & CO.,
MEMPHIS TENN.
COTTONSEED PRODUCTS
Miners' Oils. Winter Yellow, Summer Yellow Summer White, & Cooking Oil.
CRUDE AND REFINED OILS,
Meal and Cake. Soap Stocks.
Correspondence Solicited. Samples sent on application

MICA AXLE GREASE.

THE CINCINNATI TRANSFER CO.,
Cincinnati, Ohio.

Mica Axle Grease is very satisfactory in every respect. *Quite superior to any axle grease we have ever used before.*
W. J. Winterbottom, Supt.

We endorse the above.
Griffith & Hill, Lumber Dealers.
Jas. Griffith & Sons, Planing Mill.

Springfield, Vt.
I have a large sale of Mica Axle Grease. *It wears three times as long as any I ever used.*
Minor W. Newton

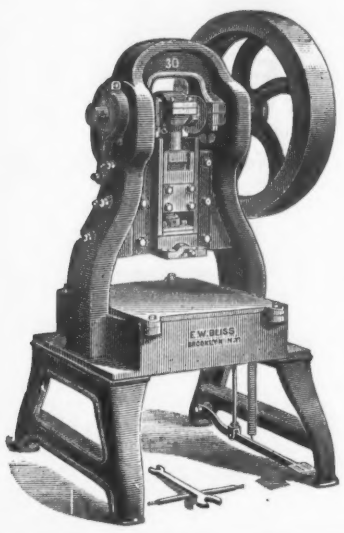
Eldorado, Wis.
We have sold Mica Axle Grease for five years. *It is the best Grease manufactured.*
C. H. & Buell Anderson

Detroit, Mich.
I have used Mica Axle Grease for about *eight years* with the very best satisfaction. *It doesn't run off the axle in hot weather; and it doesn't chill and harden in cold weather.* I have used almost all other makes of axle grease *and consider the Mica worth more than twice as much as any other for my use.*
J. C. Carpenter, dealer in coal and wood

Manufactured by the

American Lubricating Oil Co.,

Cleveland, Ohio.



Machinery for Petroleum Cans.

Having furnished Canning Machinery to the largest Refineries in the World, and with an experience of twenty years, we can furnish any information in regard to such Plants.

E. W. Bliss Company,

17 ADAMS STREET, BROOKLYN, N. Y., U. S. A.

Machinery for Making Artists' Color Tubes for the Paint Trade.

The Tidewater Pipe Co. L't'd. Ocean Oil Co., New York. The Chester Oil Co., Philadelphia

POLAR OIL COMPANY,

MANUFACTURERS OF LUBRICATING OILS.

Paraffine Oils & Paraffine Wax

FILTERED CYLINDER STOCK. 300° ILLUMINATING OIL.

COLD TEST AND SUMMER BLACK OILS.

New York Office, Cor. Broadway & Beaver St. Chicago Office, 205 LaSalle St

POPULAR SPECIALTIES

Wide awake Jobbers and retailers realize that there are certain commodities that become standards in consequence of their increasing popularity year after year. Not because they are forced upon the trade, but on account of their intrinsic worth. It is the keen tradesman that caters to this established demand instead of taking advantage of the consumer by palming off on him some cheap imitation. The former course is a practical protection of commercial relations, while the latter destroys confidence and injures trade. Practical experience of nearly a quarter of a century has taught the shrewd consumer that there is no better leather preservative known to the trade than ***VACUUM HARNESS OIL.*** The peculiar process and care in manufacture, secures a uniformly good article. It penetrates the leather, making it soft and pliable giving double wear to Harness, Carriage Top, Shoes, etc. Some people, however, will count the first cost and for this trade is the ***FAVORITE HARNESS OIL*** of the same grade, only a little less in quality at "way down" prices. The only satisfactory cheap oil. Another essential to every well regulated stable; almost as indispensable as hay; is the ***VACUUM HOOF OIL;*** a peculiarly penetrating and searching salve. Horsemen know it is the great remedy for Sores, Wounds, Galls, Sprains, Quarter Crack. These goods are offered to the trade at discounts that pay for handling, and on liberal credit. Send for prices and other information to

Address. VACUUM OIL CO., Rochester. N. Y., or

No. 45 Purchase St., BOSTON, MASS.
44 Gay's Building, ST. LOUIS
17 Commercial Gaz. Bld'g, CINCINNATI
The Albany, LIVERPOOL, ENG.
No. 20 Home Insurance Building, CHICAGO.
No. 216½ Wash. Ave. So., MINNEAPOLIS.
No. 231 Smith's Wharf, BALTIMORE.
No. 138 St. James ., MONTREAL.
No. 96 Water St., NEW YORK.
No. 305 Walnut St., PHILADELPHIA.
No. 150 First Ave, PITTSBURG, PA.
No. 96 King St. West, TORONTO.

bing parcels moved, but since that time, owing to the terrific storms, the market has been at a standstill and no trading whatever has been consummated. The market closed inactive to-day at 39c.

On Rosins there have been no particular features of interest. There has been no trading other than in a jobbing way. The storm has interfered with trading, as has been the case in every line, since Monday. The market was inactive at the close to-day with values quoted as follows: Strained, 1 17½c, G S, $1 20; E, $1 25; F, $1 30; G, $1 40; H, $1 47½; I, $1 60; K, $1 65@ M, $1 85; N. $2 00; W G, $3 70; W W, $3 10.

TURPENTINE STATISTICS.

Messrs. Watt & Son, London, under date of Feb. 25 say:

	1888.	1887.	1886.	1885.
Stock Feb. 25	16,095	26,985	46,997	41,447
Delivered this week	763	1,389	763	1,297
Since Jan. 1	8,539	11,089	8,674	11,177
Price Feb. 25	28s 3d	27s 6d	30s d	22s d
Mch-May	28s 6d	27s 9d	30s 3d	22s d
Sep-Dec	28s	26s d	27s 6d	24s d

Mr. J. W. Bolles, of Wilmington, N. C., supplies us with the following information:

STOCK AFLOAT AND ASHORE MCH. 10, 1888.

	Ashore. Bbls.	Afloat. Bbls.	Total Bbls.
Spirits	1,062	438	1,500
Rosin	57,150	5,604	62,754
Tar	8,282	190	8,472
Crude	702	25	727

RECEIVED AND MANUFACTURED.

	Spirits.	Rosin.	Tar
March 1 to 10, 1888	764	5,944	4,307
Last year	1,331	17,387	3,231
Crop to date	69,001	337,476	54,825
Same time last year	63,515	328,064	65,513

DOMESTIC EXPORTS.

	Spirits.	Rosin.	Tar.
New York	517	....	690
Sundry	86	37	277
	603	37	937
Total foreign	1	7,010	10
Total exports March 1 to 10, 1888	604	7,047	977

FOREIGN AND DOMESTIC EXPORTS.

Total exports March 1 to 12, 1887	2,893	23,984	1,260
Total exports crop year to date	68,691	368,504	57,830
Total exports same time last year	62,513	307,055	56,157

A Physician's View of Oleomargarine.

Dr. J. R. Ludlow, in the *Medical and Surgical Reporter*, makes a timely protest against the attempt by legislation to suppress the manufacture and use of artificial butter. Butter, he says, is not merely a luxury. It is an important component of a civilized dietary. The supply of genuine butter is, however, of necessity limited. Human skill and ingenuity have produced a substitute, which not only satisfies the palate, but which fully replaces the genuine as a food, and is certainly much more wholesome than much of the butter found in the market. The quality of the artificial product is uniform, and the source of the supply practically inexhaustible. It is a boon to the poor man and the man in moderate circumstances, yet it is denounced and misrepresented by the dairy interest, because its extended use has diminished their profits. It is called "stuff" and "nasty," and attempts are made to excite prejudice against it as unwholesome; laws are passed taxing it, and more or less prohibiting its manufacture and sale. The effect of these laws is simply to raise the price of butter, both genuine and artificial, to the consumer. So long as men can make artificial butter which cannot be distinguished from the genuine by sight, taste or smell, so long will it be made and sold, unless the manufacture is absolutely prohibited by arbitrary and iniquitous legislation. In the interest of the masses the profession should protest against unnecessarily adding so the cost of a food so valuable and important. The rich man may enjoy his gilt-edged butter, but without this alternative the poor man is condemned either to abstinence, or to the use of a rank, rancid, refuse article whose only recommendation is that it is "genuine."

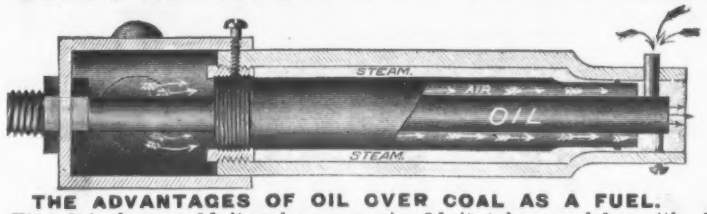
New Uses for Tar.

The coating of brick and wooden structures with coal tar, as a rough and ready means of preserving them from the action of damp, has been common from the earliest days of the gas industry. It has also been usual in chemical works to protect the stones used in the construction of acid tanks, etc., by preliminary soaking in heated tar. But the great improvement in strength and impermeability to moisture which results from the simple operation of boiling bricks and stones in gas tar, is certainly not so generally known as it should be. Professor Lunge, in the new edition of his work, "Coal Tar and Ammonia," draws attention to the subject, and indicates several useful applications. He points out that drain and roofing tiles, which are quite porous and brittle as they leave the kiln, may be rendered absolutely water tight and much stronger by immersion in a bath of hot tar. Building stones are also greatly improved by similar treatment; and for many purposes the dead black color which results is an advantage rather than an objection. The tar should be deprived of water and its volatile oils: and to produce good results the bath must be maintained at a temperature of at least 100 deg. C. The articles to be treated should thoroughly dried and allowed to remain in the tar for some time. *Ex.*

EDWIN SCHOFIELD,
SUCCESSOR TO
R. H. NUTT'S SON & CO.,
OIL PRESS MAT
AND
BAGGING MANUFACTURERS
81 Water St., Brooklyn, N. Y

SILLIMAN & STERLING,
Manufacturers, Producers and Wholesale Dealers in
Machinery, Illuminating, Lubricating and other oils.
BRIDGEPORT, CONN.

THE ASKINS OIL BURNER



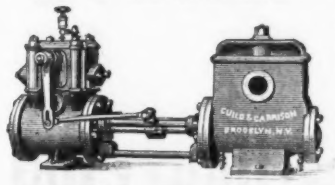
THE ADVANTAGES OF OIL OVER COAL AS A FUEL.

First, it is cheaper; 2d, it makes no smoke; 3d, it takes no labor; 4th, is perfectly clean; 5th, no ashes or cinders: 6th, it keeps a uniform heat; 7th, it can be regulated to make a large or small fire; 8th, it can be instantly extinguished; 9th, one man can do the labor of ten; 10th, perfect combustion; 11th, no grate bars to burn out; 12th, no lack of steam; 13th, steady and uniform power.

For descriptive Circulars address

The Askins Oil Burner Co.,
LIMA, OHIO.

STEAM PUMPS



For Hot or Cold, Fresh or Salt Water; for Oils, Naphtha, Tar; for Cane Juice, Liquors, Syrups, Scum for Ammonia, Alkalies, Extracts Acids; for Thick, Volatile, Viscous or Foul Liquids, etc. VACUUM PUMPS of the highest efficiency. FILTER PRESS PUMPS. Air, Gas and Acid Blowers. AIR COMPRESSORS, Etc.

GUILD & GARRISON.
BROOKLYN, N. Y.

DELAWARE LUBRICATING OIL REFINERY,
HIRAM E. LUTZ, Proprietor.
Manufacturer of Special Brands;
Victor, Reliance and Eclipse Oils,
LOW GRAVITY—HIGH FIRE TEST,
For Engines, Spindles, Machinery, &c., &c.
PARAFFINE OILS AND WAX.
OFFICE, 32 N. 11th STREET, PHILADELPHIA, PA.,
Refinery, Thurlow, Pa. Correspondence Solicited Samples sent on application

THE RIDLER CO.,
Manufacturers, Importers and dealers in OILS, VARNISHES, JAPANS, DRY COLORS, PAINTS, &c., also NAVAL STORES.

We would call special attention to our "Arcanum" Oils, Raw or Boiled which are substitutes for Linseed oil and acknowledged by competent judges the best yet placed on the market. Our "SPECIAL" Turpentine, also a substitute for pure spirits, is meeting with an increased demand, not only on account of its being first-class in every respect but also on account of the price, which is little more than one-half the cost of the pure. We guarantee both above substitutes to give good satisfaction, or no sale.

CORRESPONDENCE SOLICITED.

OFFICE & WAREHOUSE: 177 to 181 Bathurst St.
WORKS: 82 to 90 Woolsley St.,
TORONTO, ONTARIO.

JOHN GILL WILLITS, President. JOHN GILL, Jr., Treasurer

NEW YORK OIL CO.

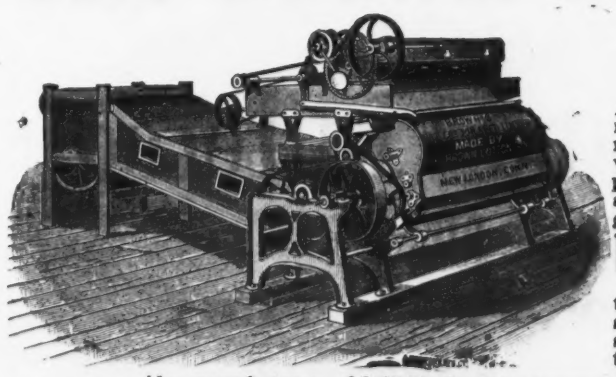
REPRESENTING

Quaker City Oil Company and other Independent Refiners of Petroleum and also Manufacturers of Oils of All Kinds, Wax, Chemicals, &c.

Offices: NEW YORK, 125 Maiden Lane PHILADELPHIA, 9 N. Front St.

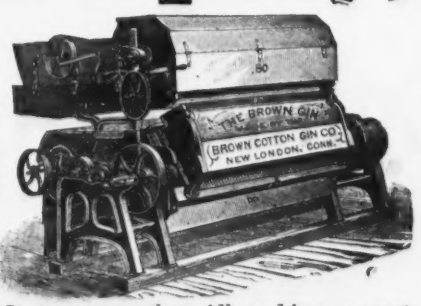
Correspondence Solicited with Refiners and Manufacturers having goods to offer for Export or Home Trade and Jobbers.

The Brown Cotton Gin Company,



MANUFACTURERS OF
THE BROWN COTTON GIN

Leads all others in quantity and quality of work, in pleasing the buyer, and in sales. The number now in use being nearly equal to any two other makes. ☞ It is strong and simple in construction, very durable, gins fast, runs light, cleans the seed perfectly and produces first-class samples. It has all the latest improvements, and is *Guaranteed to give Satisfaction.*



The Brown Cottonseed Linter for Oil Mills.

This machine is specially adapted for use in cottonseed oil mills. It removes the lint left on the seed after they have passed through the cotton gin. It does its work rapidly and in every way satisfactorily. They are made of the best materials in a workmanlike manner. We guarantee them superior in every respect to any machine of the kind in the market.

Also manufacturers of Self Feeders Condensors for Steam Power, New York Cotton Gin arranged for Hand or Power, etc., etc.

CORRESPONDENCE SOLICITED.

Office and Works, NEW LONDON, CONN

BUSH & DENSLOW'S
PREMIUM
SAFETY OIL.

BEST IN THE WORLD.

The New York Board of Underwriters say "Bush & Denslow's Premium Safety Oil is a perfectly safe Illuminator, and its use will result in a great saving of life and property."

BUSH & DENSLOW MFG. CO.,

Refiner's Office, 130 Pearl Street, - NEW YORK.

CREW, LEVICK & CO.,
MANUFACTURERS OF
HIGH FLASH EXTRA VISCOSITY
Red Machinery, Heavy Dark Cylinder & Lubricating Oils.

FOREIGN AGENTS FOR THE SALE OF
Clark & Warren Co.'s
FILTERED PRODUCTS.

PARAFFINE WAX.
AGENCIES ESTABLISHED THROUGHOUT EUROPE.

PROPRIETORS OF THE
Seaboard Oil Works,
Office 131 ARCH ST., PHILA

J. H. DUGGAN,
Secretary and Treasurer Cottonseed Crusher Association,
BROKER IN
COTTONSEED PRODUCTS
AND
OIL MILL SUPPLIES,
180 Common Street,
NEW ORLEANS

VULCANIZED RUBBER FABRICS
OF EVERY DESCRIPTION.
RUBBER BELTING, PACKING AND HOSE,
—ALSO—
Rubber Mats and Matting
For Halls, Floors, Stone and Iron Stairways, etc.
FIRE-TEST HOSE FOR BUILDINGS.
Address the Manufacturers,

NEW YORK BELTING & PACKING CO.,
Warehouse, 15 Park Row, New York.
803 Chestnut St., Phila. JOHN H. CHEEVER, Treasurer. POST & CO., CINCINNATI, O.
Cor. Wazee & 17th St., DENVER, COL.
167 Lake St., Chicago.
EUROPEAN BRANCH: PICKHUBEN 5, HAMBURG, Ger. (Freihafengebiet.)
52 and 54 Summer St., Boston J. D CHEEVER Dept. Treas.

PARAFFINE WAX,
CRUDE, SCALE AND REFINED.
Send for Quotations. FRED. G. CLARK, Broker in Petroleum Products Animal Oils, &c.
29 Euclid Avenue, Cleveland, Ohio.

DAVIS OIL CO,
10 & 12 OLD SLIP, Cor. Water St., NEW YORK.
MANUFACTURERS OF
Lard, Neatsfoot and Tallow Oils,
ALSO MANUFACTURERS OF REFINED ANIMAL OILS.

ALEX. McDONALD, President. H. A. HUTCHINS, Secretary, JAS. McDONALD, V. Pres't and Treas.

CONSOLIDATED TANK LINE CO.,
31 and 33 W. Pearl Street, CINCINNATI, O.

FINE LUBRICATING AND MACHINERY
DEALERS IN ALL GRADES OF
OILS
Railroad, Engine Car and Coach Oils a Specialty

BORNE, SCRYMSER & CO.,
REFINERS OF
Cylinder Oils, Dark and Filtered,
BLOOMLESS FILTERED NEUTRAL OILS,
SPERM BURNING OIL, 300° FIRE TEST,
WOOL STOCKS AND MINERAL LUBRICATING OILS GENERALLY.
Works: Elizabethport, N. J.
224 FRONT STREET, NEW YORK

The American Cotton Oil Company,

OF OHIO,

(SUCCESSORS TO JOHN V. LEWIS & CO.,)

CINCINNATI, O.,

Manufacturers of all Grades of

COTTON OIL.

Crude Cotton Oil,
Summer Yellow Cotton Oil,
Summer White Cotton Oil,
Winter-Strained Cotton Oil,
White Cottonseed Stearine,
Yellow Cottonseed Stearine,
Cottonseed Soap Stocks.

Winter Miners' Oil and Brewers' Lamp Oil (White and Yellow,) Especially prepared for burning purposes and guaranteed to remain bright and limpid at 32 deg. Fahr.

Empire Salad Oil, A strictly Winter-Strained Oil, especially prepared for druggists' and culinary purposes, guaranteed to remain bright and Limpid at 32 deg. Fahr.

A. C. O. Co., J. V. L. & Co and I X L Cooking Oils, purely vegetable. Recommended to and extensively used by bakers, hotels and private families.

Owing to our close connection with the manufacturers of the crude oil and our superior facilities, we are in a position to defy competition and to furnish our products at lower prices than can be made by other refiners.

QUOTATIONS FURNISHED UPON APPLICATION.

UNION OIL CO.,

PROVIDENCE, R. I., AND NEW ORLEANS, LA.

ESTABLISHED 1855.

COTTONSEED OILS,

Crude, Summer White and Yellow, Winter White and Yellow.

PURE SALAD OILS, OLIVE FLAVORED

SALAD OILS IN BOTTLES AND CASES.

WHITE AND YELLOW STEARINE.

Scouring and Fulling Soap and Soap Stock.

Cottonseed Cake and Meal.

JOHN H. KENDALL, Manager, New Orleans, La.

LYMAN KLAPP, President, Providence, R. I.

OCEAN OIL CO. New York. THE TIDE WATER PIPE CO., Lim. POLAR OIL CO. New York

THE CHESTER OIL COMPANY,

Refiners of Petroleum,

PRINCIPAL OFFICE,

S. E. COR. THIRD and WALNUT STREETS

City Department, 34 SOUTH DELAWARE AVENUE,

PHILADELPHIA.

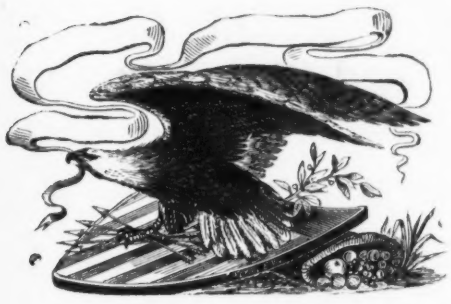
General Western Depot, Blue Island, Ill.

CHICAGO OFFICE, 205 La Salle Street, Rooms 59 & 60. JOHN SINCLAIR, Agent.

NORTH WESTERN AGENCY, 908 & 910 Third St., South, Minneapolis, Minn.

The Eagle Refining Company,

PRODUCERS, SHIPPERS AND REFINERS OF



Petroleum and Its Products.

FOR DOMESTIC AND EXPORT TRADE.

Finest Grades of Engine, Machinery and Cylinder Oils. Railroad and Steamboat Oils a Specialty

Works, Cleveland, O. and Lima, O.

General Offices, Benedict Block,

CLEVELAND, O.

Correspondence Solicited.

Pratt's Stove Gasolene

THE marvelous rapidity with which Gasolene Stoves have established themselves in the public estimation has scarcely a parallel in business annals. It is only a few years since they were first introduced, and then they were used in the Western States alone; to-day they are growing to be a necessary part of the family economy in every section of the country. Many of the largest manufacturers of coal stoves are now engaged in making Gasolene Stoves, so widespread has become the demand for them, and it is credibly stated that more than *one hundred thousand* of these stoves were sold during the past year. They are especially serviceable during the summer months, or whenever quickly-cooked meals are a desideratum; and their increasing use in these ways is a direct testimony to their superiority to both coal and oil stoves.

Working in active co-operation with a number of the leading stove manufacturers, who are desirous that their patrons shall be able to supply themselves with a reliable quality of fluid, we take this opportunity to inform the trade that **Pratt's Deodorized Stove Gasolene** is refined with especial regard to purity and the requirements of Gasolene Stoves, and carries our guarantee not to clog the burners or emit offensive odor. Dealers may confidently recommend this article to their patrons.

Address all inquiries and orders to

Pratt Manufacturing Company

26 BROADWAY, NEW YORK

PETROLEUM MARKET.

TUESDAY EVENING, March 13, 1888.

The blizzard which has locked in New York from the outer world, played havoc with business, by blockading the streets with mountains of snow and stopping traffic on all railroads as well as street car lines. Brokers who live out of town have been unable to reach the city since Saturday, and those who reside uptown or Brooklyn had either to pay excessive cab fare to reach their offices or stay at home. Speculation in petroleum suffered as did other lines of business, as the consolidated exchange closed early on Monday and Tuesday owing to the very slim attendance and demoralization of general business.

The leading well news during the week had reference to the Fergus well at Washington. On March 9 it was making 15 barrels an hour before drilling. After the tools were set in motion it was brought up to 20 barrels an hour and maintained the output pretty regularly while the agitation was continued. It was doing 18 barrels an hour Friday night. The bit was cutting good sand all day, but the well shows that the keen edge of pressure has been taken off by the drainage of neighboring wells. A telegram received to-day states that the well was drilled one-quarter of an hour and showed 51 barrels per hour. Before drilling it was doing 51 barrels.

The Snee McPherson well at Washington is below pay streak in fifty foot sand and dry.

The transactions during the past week show a large decrease over those of the previous week, the sales footing up 8,735,000 bbls against 13,131,000 bbls for the preceding week. The clearances of the local exchange amounted to 32,208,000 bbls, against 27,930,000 bbls during the preceding week. The total clearances reported for the other four exchanges amounted to 47,712,000 bbls against 45,324,000 bbls for the preceding week. The highest price of the week was reached on Wednesday and Thursday when $1 was touched. The lowest point of the week was 91c and was touched Thursday. The opening price last Wednesday was $1, and the close this evening was at 97¼c, showing a loss as the result of the week's trading of 2¾c, while the extreme range of fluctuations for the week was 6c.

Wednesday, March 7.

The excitement of Tuesday was renewed at the opening, and the crowd around the ring was the largest seen in a long time. Not knowing what might be in store, and in view of yesterday's advance, many of the shorts saw fit to cover, while long oil has been sold presumably at a good profit, from $1 down to 98c. The short interest having been covered, certificates dropped to 93⅞c. Subsequently a rally to 91¼c took place, but still later there was a reaction to 97¼@97⅜. The sales aggregated 4,149,000 barrels, against 5,566,000 barrels yesterday. The carrying rates in the early part of the session were $1, then advanced to $2, and dropped to flat at the close.

The members of the Stock Exchange have apparently satisfied themselves that dealing in oil is accompanied with too many sharp corners, and this morning they were disposed to let Pipe Line certificates alone. The crowd around the petroleum section was comparatively small, and the only business transacted was the settling up of old accounts.

The half-hourly quotations were as follows:

A. M.		P. M.	
10:00	..$1 00	12:30	98¼
10:30	98¼	1:00	98⅛
11:00	9 ⅜	1:30	99⅛
11:30	9⅝	2:00	9⅝
12:00	9¾	2:30	9¾
		3:00	97⅝

The clearances were as follows: New York, 7,504,000; Oil City, 4,842,000; Pittsburg, 5,176,000 Bradford, 2,724,000; Philadelphia, 1,222,000; total clearances March 7, 21,868,000 bbls.

Carrying rates were: New York, flat. Oil City, —@— Pittsburg, 35c; Bradford, 15c.

Market March 8, 1887—61¼@6⅝.

Thursday, March 8.

The market opened at 96c, dropped to 95⅛c then reacted to 96⅜c which was the highest figure of the day, declined to 91⅝c the lowest price, and closed at 9 ¼c. The business of the day footed up 1,740,000 bbls.

The half-hourly quotations were as follows:

A.M.		P.M.	
10:00	95	12:30	95⅛
10:30	95⅜	1:00	9 ¾
11:00	9 ¼	1:30	9.⅝
11:30	95¾	2:00	95⅛
12:00	95	2:30	9⅜
		3:00	95¼

The clearances were as follows: New York, 12,084,000; Oil City, 6,0 8,000; Pittsburg, 6,265,000; Bradford, 2,638,000; Philadelphia, 1,101,000; total clearances March 8, 30,096,000 bbls.

Carrying rates were: New York, flat; Oil City, 25@10c; Pittsburg, —c; Bradford, —c.

Market March 9, 1887—6.¾@6¾c.

Friday, March 9.

The total sales were slightly larger than the previous day, having aggregated 1,895,000 bbls. Fluctuations were confined to narrow margins; the opening having been 94¾c, the highest 9 ⅜c, lowest 91⅝c and the close 94⅜c. Carrying rates started flat but subsequently went up to 35c.

The half-hourly quotations were as follows:

A. M.		P. M.	
10:00	9 ⅜	12:30	95
10:30	9¼	1:00	95
11:00	9 ⅛	1:30	95¼
11:30	95¼	2:00	9¼
12:00	94⅞	2:30	9⅜
		3:00	9⅛

The clearances were as follows: New York, 6,530,000; Oil City, 3,596,000; Pittsburg, 4 112,000; Bradford, 2 123,000; Philadelphia, 614,000; total clearances March 9, 17,040 000 bbls.

Carrying rates were: New York, 20@35c pr Oil City, —@—c; Pittsburg, —c; Bradford, —c.

Market March 10, 1887—61¼@63⅛c.

Saturday, March 10.

The market opened at 95¼c but dropped to 91¾c, the lowest point of the day, during the first five minutes; as good buying was reported on the Western Exchanges, prices rallied here to 96⅛c, the highest point reached. The close was at 96c. Sales footed up 726,000 bbls.

The half-hourly quotations were as follows:

A. M.		A. M.	
10:00	.91¼	11:00	95⅝
10:30	.95⅝	11:30	95⅞
		12:00	96

The clearances were as follows: New York, 6,090,000; Oil City, 3,110,000; Pittsburg, 3,054,000; Bradford, ——; Philadelphia, 662,000; total clearances March 10, 12,916,000 bbls.

Carrying rates were: New York, 10@15c; Oil City, —@—c; Pittsburg, —c; Bradford, —@—c.

Market March 11, 1887—63⅛@64c.

Monday, March 12.

The storm having closed all means of transportation except by cab and foot, the Oil Exchange was almost deserted until near noon when members came straggling in and some effort was made to do business. Not more than 150 members were present during the entire session and the total sales only amounted to about 100,000 barrels. The market feebly opened at 95c, reached 96c, declined to 94c and closed early at 95¾c, in order to give the brokers time to walk home. The trade in pipe line certificates at the New York Stock Exchange amounted to 77,000 bbls. The sales were as follows: 5,000 at 95; 10,000 at 95⅛; 12,000 at 95¼; 10,000 at 95⅛; 5,000 at 95⅝; 20,000 at 9.¾; and 15,000 at 95⅝.

No clearances were reported, carrying rates attracted little attention, and settlements were postponed until to-morrow.

Tuesday, March 13,

The second day of the storm prevented the attendance of members other than those present yesterday on account of the continued interference to travel, and the Exchange closed at 1 P. M., by common consent without action by the Governing Committee. The opening was at 96c, highest 97⅛c, lowest 93c, and closing 97¼c. The total sales were 125,000 bbls. A notice was posted on the blackboard to the effect that "oil clearances of Saturday and Monday are made to-day. Parties receiving certificates have to pay one day's storage to the clearing house."

The amount of daily sales and total for the week follow:

Late.	Bbls.
Mar. 7	4.149,000
" 8	1,740,000
" 9	1,895,000
" 10	726,000
" 12	100,000
" 13	125,000
Total for week	8,735,000

Following is given the opening, highest, lowest and closing figures for each day, in tabulated form for comparison:

	Opening.	Highest.	Lowest.	Closing.
Mar. 7	1 00	1 00	96¾	97⅜
" 8	9 ⅜	9 ⅝	94⅝	95¼
" 9	94⅞	96⅜	9 ⅝	94⅞
" 10	95¾	96⅛	94¾	96
" 12	95	96	94	95
" 13	96	97¼	96	97¼

The total clearances during the week at the several petroleum exchanges foot up as follows:

New York	32,208,000
Oil City	17,556,000
Pittsburg	19,037,000
Bradford	7.4 0,000
Philadelphia	3,669,000
	47,712,000
Total	79,920,000

Closing Quotations.

CRUDE.

National Transit Certificates	₱ bbl.	97¼@ 97⅜
In bbls	₱ gal.	6⅞@ 7⅛
In cases		8⅞@ 9¼
Residuum, bbls, for export 18@22°		5¼@ 6
for domestic use f o b		1¾@ —

REFINED, IN BARRELS.

Cargo lots, Abel test	₱ gal.	7¾@ —
Philadelphia loading		7¾@ —
Baltimore loading		7¾@ —
50 bbl lots, f. o. b. or on dock		8⅝ @ 8¾
10 bbl lots, f. o. b. or on dock		8¾ @ 9

HIGH TEST OILS—JOBBING LOTS.

110 fire test S. W	₱ gal.	8 @ —
120 fire test, S. W		8¼@ —
130 fire test, S. W		8¼@ —
State test		8⅝@ —
150 fire test W.W		8¾@ 9
00 fire test		10 @11¼
New York city 100 flash		8¼

REFINED IN CASES, 110 FIRE TEST.

Two-five, low screw, 10,000 lots	9¾@ —
5,000 o 10,000	9¾ @10⅛
1,000 to 5,000	10⅛@10⅝
200 to 1,000	10⅝@11⅛
Under 200	10⅞@11⅝

NAPHTHA AND GASOLINE.

Naphtha, crude, cargo lots, 68@72 deg	—@ 7
Naphtha crude, car lots, 68@72 deg	7⅛@ 7¼
Naontha, crude, 70 deg	8½@ 9⅛
Sweet, 62 deg	8½@ 9⅛
70 deg	9 @1
76 deg	9½@10½
Gasoline, 86 deg	13 @14
88 deg	15 @16
90 deg	18 @19

EMPTY PETROLEUM BARRELS.

Cargoes spot	$1 05 @1 06
Domestics, on dock	1 00 @1 02½
Subject to inspection	$1 05

Petroleum Statistics.

RUNS—TOTAL AND AVERAGE.

	Day.	Total.	Av'ge
Mon. Mar. 5	38,880	155,799	31 159
Tues. " 6	34,505	190,304	31,717
Wed. " 7	32,368	222,582	31,798
Thurs. " 8	35,255	257,837	32.230
Frid. " 9	....	....	....
Sat.,Sun. 10 & 11	....	....	....
January, 1888		1,048,641	33 827
February		1,175,102	40,529
March, 1887		1,877,333	60.559
April		1,852 118	61,737
May		1,586,755	60.563
June		1,780.343	59.245
July		1,746,659	56,344
August		1,745,629	56.311
September		1,648,421	54.947
October		1,751,676	56,506
November		1,125,390	37,513
December		1,223,848	39,472
Year 1887		20,209,993	55.415

DELIVERIES—TOTAL AND AVERAGE.

	Day.	Total.	Av'ge
Mon. Mar. 5	75,341	311,914	61,989
Tues. " 6	76 8.5	378,760	63,417
Wed. " 7	71,703	450,463	64 352
Thurs. " 8	66,537	517,000	64.625
Frid. " 9	....	....	....
Sat, Sun, 10-11	....	....	....
January, 1888		2,225,975	71.806
February		2,115,803	72,938
March, 1887		2,215,658	71.482
April		1,827,683	60,923
May		2,150,831	49 382
June		2,046,486	68,283
July		1,89 .8.3	61,302
August		2,118,647	68.343
September		2,140.295	71,343
October		2,363,707	76,894
November		2,4 3.3.7	80,777
December		2,4 9.617	78,052
Year, 1887		25 519,175	69,9.6

CHARTERS—TOTAL AND AVERAGE.

	Day.	Total.	Av'ge
Mon. Mar. 5	69,441	207,619	41,524
Tues. " 6	72,857	280,476	46,746
Wed. " 7	18,7.0	99,206	42,743
Thurs. " 8	96,269	395,475	49 434
Frid. " 9	73,222	467,697	51 686
Sat. Sun. 10 & 11	....	....	....
January, 1888		914,199	29.490
February		1,199,189	41,351
March, 1887		1,101,075	35.518
April		1,551,219	51,170
May		1,519,361	49.012
June		1,228,638	40,954
July		1,343,444	43,337
August		1,647,254	53,138
September		1,302,513	43,417
October		1,411,578	45.542
November		1,120.709	37.357
December		1,011 903	32,655
Year, 1887		15,204,735	41,657

CHARTERS FOR THE WEEK.

The total charters for refined in bbls and cases, crude in bbls and cases, naphtha &c., during the week ending March 5 were as follows:

Refined, bbls	97,100
Refined, cs	348.000
Crude, bbls	22,500
Crude, cs	25,000
Naphtha, bbls	....
Residuum, bbls	....
Lubricating	....
Total, crude equivalent	292,086

CLEARANCES FOR THE WEEK.

During the week ending March 12, the clearances of petroleum, in gallons, from the port of New York were as follows:

Refined	5,892,903
Crude	1,03 .6 0
Naphtha	950
Residuum	....
Total	6,924 493

EXPORT STATISTICS.

The following table shows the total exports from the port of New York and from the United States, reduced to crude equivalent, in gallons, for the week ending March 3; also, the total shipments to date, with comparisons with 1887:

Exports from New York for week ending March 3	12 747,378
Total exports from New York from Jan. 1, 1888	70,6 9,170
Same period last year	74,9 9.956
Decrease	4,310,486
Exports from U. S. for week ending March 3	18,965,352
Total exports from U. S. from Jan. 1, 1888	8 ,940,543
same period last year	99,3 3.864
Decrease	10,372,'23

TOTAL EXPORTS FROM DIFFERENT PORTS.

	1888.	1887.
New York	70,679 476	74,949,956
Philadelphia	17,047,386	23,594,325
Baltimore	270,653	1,924,583
Boston	365.733	.....
Perth Amboy	577,600	.....
Grand total	88,940,842	99,312,864

CAPACITY OF VESSELS LOADING.

The following table gives the capacity of the vessels loading petroleum at the ports of New York, Philadelphia, Baltimore and Boston on March 5:

	NEW YORK.		PHILADELPHIA.	
	Bbls.	Cases.	Bbls	Cases.
Refined	132 6 0	1,285,000	40,500	370,000
Crude	19,500	....	37,700	....
Naphtha	1,300	....	4,500	....
Tota'	153.600	1.285.000	82,700	370,000

	BALTIMORE.		BOSTON.	
	Bbls.	Cases.	Bbls.	Cases.
Refined	....	....	..	....
Crude	....	....	....	....
Naphtha	....	....	....	....
Total	....	....	....	....

Foreign Statistics.

REFINED QUOTATIONS

		Bremen	Antwerp.	London.
Wed,	Mar. 7.	7.20	— @18¾	6⅝@6¾
Thur,	" 8.	7.15	— @18⅝	6⅝@6¾
Fri,	" 9.	7.15	— @19¼	6⅝@ ¾
Sat,	" 10.	7.15	19¾ a—	6⅝@ ¾
Mon,	" 12.	7.20	20 @—	6⅝@¾
Tues,	" 13.	.20	19¾ @—	6⅝@6¾

STOCKS, RECEIPTS AND SHIPMENTS.

The stock at the seven principal continental ports on February 25, was:

	1888.	1887.
Stock, Feb. 25	238,193	291,304
Afloat "	153.6 3	180,703
Loading "	129, 00	121,9.0
Total	521,111	593,907
Receipts Feb. 18 to Feb. 25	——	101,513
Rec'ts July 1, '87, to Feb. 25, '88	2,891,400	2,7.6,445
Shipments Feb. 18 to Feb. 25.	69 468	74,-31
Snp's July 1, '87, to Feb. 25, '88	3,16 ,976	3,135,538

At London the stock on the same date was:

	1888.	18e7.
Stock, Feb. 25	78,153	100,350
Afloat "	24,500	31,100
Loading "	8,000	30,0.0
Total	110,653	161,450
Receipts Feb. 18 to Feb. 25	.....	42,919
Rec'e July 1, '87, to Fe . 25, '88	589,9.0	461,683
Shipments Feb. 18 to Feb. 25.	16.09	15,620
Sup'ts July 1, '87, to Feb. 25 '88	613,985	547,125

Petroleum Charters.

Following is a list of vessels chartered and loading or to load petroleum at New York, Philadelphia, Baltimore and Boston.

NEW YORK	Bbls. Refd
Dec 21	
Nor ship Havre, Ger Baltic, 2s 7d	5,000
Jan 16	
Br ship Monrovia, China or Japan, pt	cs 60,000
Jan 23	
Br ship Pythomene, Bombay or Calcutta, p t	cs 70,000
Jan 25	
It bk Martinen, Java, p t	cs 25,000
Jan 27	
Am ship W H Connor, Shanghae, p t	cs 50,000
Jan 30	
Br ship Honolulu, China or Japan, p t	cs 60,000
Br ship Hilaria, Japan, 27½c	cs 60.000
Br bk Strathay, Saigon, p t	cs 35,000
Jan 31	
Br ship Gowanburn, Calcutta, 20c	cs 85,000
Am ship E. Capitan, Calcutta, 20c	cs 55,000
Am ship Isaac L Skolfield, Calcutta, pt	cs 25,000
Nor bk Dione, Java, pt	cs 30,000
It bk Colombina, Java, pt	cs 25,000
Feb 6	
Br ship Selkirk, Japan, 27½c	cs 68,000
Ger ship Doris, Bremen or London, p t	7,500
Feb 7.	
Br sh Canara, Japan, 27½c	cs 62,000
Br sh T E Marshall, Shanghae, 31c	cs 45,000
Feb 9	
Am ship R D Rice, Japan, 27½c	cs 80,000
Feb 13	
Br bk Bay of Fundy, Japan, 27½c	cs 45,000
Feb 14	
Br ship Stephen D Horton, Calcutta, 20c	cs 60,000
Ger bk Senator Iken, Continent, pt	8,000
Feb 15	
Nor bk Persia, U K or Continent, pt	10,000
Feb 18	
Belg bk Brabant, Antwerp, pt	3,000
Feb 20	
Br ship Lansdowne, London, 1s 10½d	9,800
Nor bk Havre, Baltic, pt	4,000
Feb 23	
Br ship British Duke, Calcutta, p t	cs 50.000
Ger bk Valparaiso, Plymouth, 2s 9d	3,000
Feb 24	
Br str Serapis, Red Sea, p t	cs 50,000

Br ship Mary L Stone, China or Japan, p t.....cs 50,000
Br bk Arizona, Japan, p t.....cs 42,000

Feb 25
Br bk Emma Payzant, Plymouth, 2s 1½d 4,100

Feb 27
Am ship Geo R Skolfield, Calcutta, 19c.cs 60,000
Am ship Granite State, Hong Kong, 24c .....cs 55,000
Br str Pawnee, Corunna, 18c.....cs cde 40,000
Br bk Alice Cooper, Dunkirk, 2s 2d...cde 5,600
Br ship Larnica, London, p t..... 9,000

Feb 28
Ger bk Henrietta, Singapore, p t.....cs 32 000
Nor ship N B Palmer, Stockholm, 2s 6d.. 6,400
Ger bk Geo Washington, Hamburg, p t.. 7,600

Feb. 29
Br str St Albans, Singapore, 33c.....cs 55 000
It bk Rosa, Plymouth or Exmouth, 2s 6d 2,500

March 1
Br ship Karoo, London, 1s 6d..... 13,000
Gr bk D H Watjen, Hamburg, 1s 9d..... 7,300
Am ship Reporter, Madras, 20½c.....cs 48,000
Br ship Argonaut, Calcutta, 19c.....cs 55,000

March 2
It bk Berna, Japan, p t.....cs 30,000
Br bk St Julian, Japan, p t.....cs 38,000

March 3
Nor bk Alice, Stockholm, 2s 3d..... 5 900
Br bk Thos Keillor, Hamburg, 1s 8d..... 6,900

March 5
It bk Amelia, Malaga, 18c.....cs 10,000
Ger str Minister Maybach, Bremen, c's ac 20,000
Nor bk Progress, Plymouth or Exmouth, 2s 7½d..... 2,800

March 6
Br bk St Julien, Rangoon, 24c.....cs 28,000
Ger ship Derby, Hamburg, 1s 7½d.....cs 6,800
Br bk Scots Bay, Vigo, 15c.....cs cde 30,000
Ger sh Alice, Rotterdam, 1s 7½d..... 9,900

March 7
Ger bk Christel, Stockholm, 2s 3d..... 5,500
Br bk Paramita, Bristol, 2s.....nap 1,500 & 3,500
It bk Papa Giacomo, Algiers, p t.....cs 14,000

March 8
Ner bk Echo, Plymouth, p t..... 2,500
Nor bk Lorenzo, Uddevalla, p t..... 5,000
Ger bk Victoria, Havre, 2s 3d.....cde 5,000
Br bk Mary Frazer, Dutch port, 1s 8d..... 8,000
Br sh Treasurer, London, 1s 7½d..... 9,000
Br bk Emblem, Japan, p t.....cs 40,000

March 9
Ger bk Geo Washington, Hamburg, 1s 7½d 7,500

PHILADELPHIA

Nov 1
Br bk Aldora, Cont, pt..... 7 000

Dec 13
Br bk Abyssinia, Japan, 27 & 28½c.....cs 45,000

Jan 18
Br bk Rothiemay, Japan, p t.....cs 45,000

Jan 30
Br ship Hamburg, Far East, p t.....cs 60,000

Feb 10
Am bk John M Clerk, Java, p t.....cs 25,000

Feb 13
Br str Ponca, Genoa or Naples, 18c.....cs 45,000

Feb 16
Am ship Gov Goodwin, Japan, 30c.....cs 47,000

Feb 23
Swed sh Ida, U K or Cont, p t..... 8,000

Feb 24
Am sh Gov Roble, Japan, 30c.....cs 60,000

Feb 25
Ger sh Johann Friedrich, Fiume, 2s 10d.....cde 8,200

Feb 28
It bk Gemma, C, Medit, p t.....cs 23,000
Br bg Aquatic, Vola, 19c.....cs 14,000
Rus bk Trimpus, Rouen, 2s 4½d.....cde 4,000
Nor bk Vesta, Dunkirk, 2s 6d.....cde 3,500

Mar 2
Br str Carn Marth, Santander, p t.....cs cde 25,000 & cde 4,000

Mar 3
Nor sh Jarlsberg, U K or Cont, 1s 9d..... 8,000

Mar 5
Nor bk Ragnhild, Ger Baltic, p t..... 3,000
Nor bk Beta, Ger Baltic, p t..... 6,000
Nor bk Lady Blessington, U K or Cont pt 7,200
It bk Ferris, Cagliari, p t.....cs 15,000

March 6
Br str Camellia, Bisceglia, 17c.....cs 40,000
It bk Chioggia, Medit, p t.....cs 18,000
It bk Principe de Napoli, Padang, p t..cs 30,000

March 8
It bk Davide, Penang or Singapore, 24@ 26c.....cs 30,000
It bk Guiseppe S, 2 ports Medit, 13½c...cs 25,000
It bk Fede, Medit, p t.....cs 20,000
It bk Giacomo, Martola, Medit, p t.....cs 17,000
It bk Emelia C, Cagliari, p t.....cs 15,000
Nor bk ——, Newcastle, 2s 3d..... 5,000

March 9
Br sh Sapphire, Antwerp, 1s 9d..... 8,000
Sp str Asturiano, London or Liverpool, 2s 3d..... 7,500
Br sh Anaurus, Calcutta, 18½c.....cs 60,000
It bk Angela di Amore, Rangoon, p t..cs 25,000
Br bk Laura Emily, London, 2s.....nap 5,000
Br bk Kings County, Bremen, p t..... 5.500

BALTIMORE.

Jan 14
Swed bk Sydney, Ger Baltic, 2s 9d..... 3.500

Clearances of Petroleum.

Following are the clearances of petroleum from the ports of New York, Philadelphia, Baltimore, Boston and San Francisco on the dates named. Refined, unless otherwise specified: -

NEW YORK

March 6
Br sch Pearl, San Blas, 25 cs
Br sh Dunrobin, Antwerp, 3975 bbls
Br bk Harold, Amsterdam, 6025 bbls
Br bk Jane Harvey, Capetown, 2600 cs
Br str Thornhill, Progreso, 500 cs
Br str Marenheuse, Pernambuco, 6300 cs
Br str Powhatan, Lisbon, 4000 cs
Br str Alert, Cape Hayti, 80 cs
Br str Alert, Aux Cayes, 50 cs
Am sch E A Warner, Mayaguez, 50 cs
Am bk Thos Brooks, St Jago, 700 cs
Am bk Thos Brooks, Guantanamo, 25 cs
Am str Santiago, Nassau, 40 cs
Am str Santiago, Cienfuegos, 246 cs, 6 bbls
Am str C of Para, La Libertad, 6 cs
Am str C of Para, Amapala, 36 cs
Am str C of Para, La Mascota, 10 cs
Am str C of Para, Panama, 315 cs
Am str C of Para, Colon, 953 cs
Nor bk Trio, Koenigsberg, 5790 bbls
Ger str Catania, Rio, 20000 cs
Br str Trinidad, Hamilton, 68 bbls
Br str Ayrshire, Windward Islands, 400 cs
Br str Ayrshire, Barbadoes, 2 bbls
Br str Ayrshire, St Lucia, 100 cs
Br str Ayrshire, Montserrat, 130 cs
Br str Ayrshire, Pt Spain, 20 cs
Br str Hondo, Belize, 515 cs
Br str Hondo, Cape Gracios, 40 cs
Br str Hondo, Greytown, 50 cs
Br str Alps, Kingston, 195 cs

March 7
Am sch J B Matheson, Jacmel, 45 cs
Am sch J A Stubbs, Grenada, 700 cs
Am bk E B Crowell, Shanghai, 38000 cs
Br str Alene, Cape Hayti, 25 cs
Br str Alene, Gonaives, 182 cs
Br str Alene, Jeremie, 120 cs
Br str Alene, Jacmel, 105 cs
Br str Alene, Aux Cayes, 125 cs, 20 bbls
Br str Alene, Port au Prince, 27 cs
Br bk Lydia, Hamburg, 8522 bbls
Br bk J W Holmes, Dieppe, 5794 bbls cde
Br sch G W Lamb, Ponce, 50 cs
Br sch G W Lamb, Mayaguez, 100 cs
Br bk S Chambers, A'dam, 6377 bbls
Br bk L M Vigus, Buenos Ayres, 9100 cs
Ger str Dora, Nordenhamm, 3568 bbls cde
Sw bk Imes, Bahia, 7680 cs
Nor bk Hertha, Buenos Ayres, 5000 cs

March 8
Am str Saratoga, Havana, 1150 cs
Am bk E L Pettingill, Valparaiso, 6550 cs
Am bk America, Bridgeton, 500 cs
Am str Valparaiso, Maracaibo, 60 cs
Am str Valparaiso, La Guayra, 260 cs, 5 bbls
Am sch T W Holder, Pt au Prince, 200 cs
Am bg F B Tucker, Ponce, 1250 cs
Br bk Curacao, Curacao, 397 cs, 34 bbls, 68 pgs
Span str Mexico, Havana, 800 cs
Nor bk Assur, Pelotas, 3650 cs

March 9
Br sh Rhine, Rotterdam, 7195 bbls
Br bk Peerless, Santos, 5900 cs
Br bk M McMaster, Sydney, 7150 cs
Br sch G W Lochner, Nassau, 35 cs, 7 bbls, 705 pgs
Br str Barracouta, Montserrat, 40 cs
Br str Barracouta, St Croix, 25 cs
Br str Barracouta, Grenada, 280 cs
Br str Barracouta, Barbadoes, 25 cs
Nor sh Kommander S Foyne, Antp, 14918 bbls
Am sh Henrietta, Shanghae, 49700 cs
Am bk G M Stanwood, Pernambuco, 16755 cs
Dtch bk Anna Aleida, Batavia, 44071 cs

March 12
Br bk Scots Bay, Vigo, 30000 cs cde
Br bk Our Annie, East London, 3070 cs
Not bk K Langaard, Stettin, 4047 bbls
Am sch W A McKays, Nassau, 300 cs

PHILADELPHIA.

Mar 3
Br bk Jas Stafford, London 2450 bbls & 591 bbls nap
Am sh P N Blanchard, Hiogo, 53000 cs

Mar 7,
Fr str Ville de Calais, Calais, 737945 gls cde

Mar 8.
Bk Fortuna, Santiago de Cuba, 600 bbls cde

March 9
Br sh Esther Roy, Antwerp, 9589 bbls
Am bk Guy C Goss, Hiogo, 55600 cs
It bk Papa, Naples, 20423 cs
Nor bk Vanadis, Yarmouth, 2201 bbls

BOSTON

March 5
Bg Varuna, Lockport, 22 bbls

March 6
Sch Anestasia, F, Windsor, 3 bbls
Sch Annie Fairfax, Cape Verde Islands, 200 cs

March 8
Sch Timothy Field, Goree, 200 cs

Imports of Empty Petroleum Barrels.

NEW YORK

177, A E Outerbridge & Co, St Pierre, Halifax
824, G Heye, Rob and Harry, St John
69, E Puig, Panama, Havana

Exports of Petroleum from New York

REFINED.

COUNTRIES.	WEEK ENDING March 12. Gals.	Jan. 1 to Mch. 5, 1888. Gals.	Jan. 1 to Mch. 6, 1887. Gals.
Africa, Liberia	.....	20,150	5,380
Sierre Leone	.....	.....	.....
South Africa	56,500	248,860	350,628
Zanzibar	.....	153,500	80,000
Algiers	.....	100,000	400,690
Arabia	.....	.....	400,000
Argentine Republic	141,000	429,120	652,580
Australia	385,760	1,322,820	466,120
Austria	.....	14,155	.....
Belgium	1,220,962	7,222,514	4,745,075
Brazil	620,056	1,102,023	1,200,864
British East Indies, Aden	.....	.....	160,000
Burmah	.....	330,000	.....
India	.....	849 280	4,316,630
Penang	.....	350,000	.....
Singapore	.....	.....	.....
British Guiana	.....	54,200	74,850
British West Indies, Antigua	.....	10,050	7,500
Barbadoes	5,350	52,150	27,510
Basse Terre	.....	3,500	21,314
Bermuda	3,998	21,321	12,001
Domenica	.....	2,850	2,660
Jamaica	1,950	128,237	119,678
Montserrat	1,700	.....	.....
Nassau	13,675	7,584	5,585
St. Lucia	1,000	2,360	3,331
St. Vincent	.....	.....	.....
Trinidad	200	69.304	51.265
All others	13,800	12,265	3,921
Canary Islands	.....	.....	31,000
Central America, Belize	5,150	11,760	17,023
Costa Rica	.....	12,182	8,543
Guatamala	.....	32,067	10.200
Honduras	384	7.046	4,947
Nicaragua	900	42,285	45,256
San Salvador	60	18,150	20,600
Chili	65,500	.....	604,660
China, Cochin	.....	630,000	695,706
All other	857,000	1,617,070	2,290.019
Cuba	24,490	258,309	213,263
Danish West Indies	250	11,864	9,792
Denmark	.....	493,583	272,453
Dutch East Indies, Java	410,710	3,772.000	1,029,290
Macassar	.....	73,140	190,000
Sumatra	.....	325,000	.....
Dutch West Indies	6,731	15,080	18,126
Dutch Guiana	.....	82,500	10,200
Ecuador	.....	92,700	55,300
England	.....	9,770,622	12,381,340
Egypt	.....	.....	712,970
France	.....	434,023	338.378
French Guiana	.....	6.500	2,470
French West Indies	.....	99.079	84,500
Germany	935,539	12,358,099	9,021,376
Gibraltar	.....	122,000	170,000
Greece	.....	.....	.....
Hawaiian Islands	.....	.....	.....
Hayti	13,232	103.581	89.824
Ireland	.....	846,5 6	547,973
Italy	.....	908	340,900
Japan	.....	1,101,370	2,352,760
Mexico	5,000	10,638	147,753
Malta	.....	.....	.....
Mauritius Island	.....	.....	.....
Netherlands	1,000,909	2,564.646	5,764,960
North America, New Brunswick	.....	122,453	90,097
New Foundland	.....	9,405	28,634
Nova Scotia	.....	39,725	40,283
Prince Ed. Island	.....	.....	.....
Norway and Sweden	.....	.....	.....
Peru	.....	43,889	68,020
Porto Rico	14,500	157,765	108,015
Phillippine Islands	.....	317,000	.....
Portugal	40,000	354,673	363,180
Reunion	.....	74.500	72,030
Russia	.....	.....	95,874
Scotland	.....	.....	.....
Siam	.....	314,700	.....
Spain	.....	.....	200
Turkey	.....	.....	422,954
U. S. of Col.	13,042	144,023	87,131
Uruguay	.....	219,740	247,700
Venezuela	3,655	142,161	187,483
Wales	.....	.....	.....
Total	5,892 903	48,345,276	52,169,855

CRUDE.

COUNTRIES.	WEEK ENDING March 12. Gals.	Jan. 1 to Mch. 5, 1888. Gals.	Jan. 1 to Mch. 6, 1887. Gals.
Australia	.....	.....	.....
Austria	.....	.....	.....
Belgium	.....	.....	.....
Brazil	.....	.....	.....
British Guiana	.....	.....	.....
British West Indies	.....	.....	.....
Chili	.....	.....	.....
Central America	.....	.....	.....
Cuba	.....	907,580	984,640
Danish West Indies	.....	.....	.....
Dutch West Indies	.....	.....	.....
England	.....	.....	213,217
France	294,367	2,044,045	4,944,632
Germany	436,273	.....	434,800
Hawaiian Islands	.....	.....	.....
Mexico	.....	326,670	166,080
British North America	.....	.....	.....
Norway & Sweden	.....	.....	.....
Spain	300,000	6.178,453	731,463
Uruguay	.....	.....	.....
Total	1,030,640	9.456.748	7.474.832

NAPHTHA.

COUNTRIES.	WEEK ENDING March 12. Gals.	Jan. 1 to Mch. 5, 1888. Gals.	Jan. 1 to Mch. 6, 1887. Gals.
Africa	.....	.....	.....
Algiers	.....	.....	.....
Argentine Republic	.....	.....	.....
Australia	.....	.....	.....
Belgium	.....	.....	.....
Brazil	950	4,750	37,525
British West Indies	.....	.....	.....
Central America	.....	.....	.....
Cuba	.....	.....	.....
Denmark	.....	.....	.....
England	.....	433,448	764,544
France	.....	15,887	353,467
Germany	.....	525,360	.....
Hayti	.....	.....	10
Ireland	.....	.....	.....
Mexico	.....	.....	.....
British North America	.....	650	600
Norway and Sweden	.....	.....	.....
Portugal	.....	.....	475
Russia	.....	.....	.....
Turkey	.....	.....	.....
Uruguay	.....	.....	.....
Venezuela	.....	.....	19,000
Total	950	980,095	1,175,521

Exports of Mineral Oils for February, 1888.

Mr. Wm. F. Switzler, Chief of the Bureau of Statistics, submits the following statement of the exports of domestic mineral oils from the United States for the month of February, 1888:

MINERAL, CRUDE.

(Including all natural oils, without regard to gravity.)

	Gallons.	Dollars.
Total for February, 1888..	6,836,631	539,833
Total for February, 1887..	3,463,281	216,112
Total for 8 months ending February 29, 1888.....	64,381,898	4,338,931
Total for 8 months ending February 28, 1887.....	55,690,201	3,554,178

NAPHTHAS.

(Including all lighter products of distillation.)

	Gallons.	Dollars.
Total for February, 1888.	662,923	52,158
Total for February, 1887.	471,996	40,212
Total for 8 months ending February 29, 1888.....	8,791,742	726,645
Total for 8 months ending February 28, 1887	12,214,470	1,070,244

ILLUMINATING.

	Gallons.	Dollars.
Total for February, 1888..	29,528,459	2,517,701
Total for February, 1887..	23,778,566	1,848,004
Total for 8 months ending February 29, 1888.....	299,968,766	22,942,345
Total for 8 months ending February 28, 1887.....	306,688,441	23,842,769

LUBRICATING AND PARAFFINE OILS

	Gallons.	Dollars.
Total for February, 1888 .	2,303,565	389,730
Total for February, 1887..	1,620,919	268,878
Total for 8 months ending February 29, 1888.....	15,042,396	2,522,143
Total for 8 months ending February 28, 1887.....	10,398,739	1,931,897

RESIDUUM.

	Gallons.	Dollars
Total for February, 1888..	328,440	19,116
Total for February, 1887..	550,998	26,976
Total for 8 months ending February 29, 1888.....	934,836	48,333
Tota for 8 months ending February 28, 1887.....	1,5?7,276	76,974

TOTAL EXPORTS OF MINERAL OILS.

	Gallons.	Dollars.
Total for February, 1888..	39,660,018	3,518,538
Total for February, 1887..	29,885,760	2,400,182
Total for 8 months ending February 29, 1888.....	389,119,638	30,578,397
Total for 8 months ending February 28, 1887.....	386,529,127	30,476,062

The Bromine Absorption of Mineral Oils.*

BY JAMES B. M'ARTHUR.

The bromine process for the valuation of oils, resins, etc., has been worked out by Mills and Allen, the method employed, as described by Allen, consisting in adding an excess of bromine dissolved in carbon bisulphide to a known quantity of the oil also dissolved in carbon bisulphide. After standing some time potassium iodide is added to the mixture, and the amount of iodine liberated is estimated with sodium thiosulphate, whereby the amount of bromine absorbed is indirectly obtained. In applying this test to mineral oils, the author found that several rules not laid down by Allen have to be adhered to. Allen insists upon the absence of light and moisture, the necessity of which the author confirmed, also adding that it is highly essential to use double the amount of bromine to what is absorbed, the quantity being determined in a blank experiment. Experimental results were given proving the correctness of these conclusions. It was particularly observable that, although olive oil absorbs but a small percentage more of bromine after standing for several hours, shale oil absorbed almost double in an hour. For example: Olive oil, fifteen minutes' contact, 47 per cent. bromine absorbed; two hours, 48·6 per cent. Shale oil, half a minute's contact, 11·3 per cent., and one hour, 19·2 per cent. Dilution also seriously reduces the absorption factor in the case of shale oil, and that of olive oil to a smaller extent. Excess of bromine, on the other hand increases the absorption power from 12 per cent. with 1·2 volume to 16·1 per cent. with 3·4 volumes in the case of shale oil, and from 44·9 per cent. (1·2 volume) to 55·5 per cent. (4 volumes) in the case of olive oil. The combined effect of long time, little dilution, and large excess of bromine on olive oil is to increase the percentage to 71·5, and to 102·1 per cent. when these conditions are carried exceedingly far. The author was of opinion that with mineral oils the amount of bromine absorbed should indicate the quantity of olefins present, as paraffines do not under the conditions named absorb bromine. The paper concluded with a long list of factors for the bromine absorption.

The following are a few of these:

	Sp. gr.	Bromine Absorption.
Shale lubricating oil, pale....	0·892	12·7
German vaseline oil, white.	0·892	0·008
American petroleum jelly...	0·890	5·33
Shale burning oil	0·804	24·9
Refined shale naphtha	0·794	42·2
Refined rape oil	0·914	50·2
Cottonseed oil.....	0·922	40·2
Olive oil	0·917	47·0
Castor oil	0·961	49·0
Raw linseed oil	0 932	65·0
Refined paraffin wax	M.P. 125° F.	0·73

The chairman quoted figures from a paper of Mr. Allen's, showing the differences which may be expected in results if the precaution which Mr. McArthur now pointed out is not observed.

* Read before the London section of the Society of Chemical Industry.

Dangers in Gasoline.

Dr. Kellogg, in a circular recently issued by the Michigan State Board of Health gives the following succinct rules for the use and care of gasoline, Every person employing or keeping gasoline should keep constantly in mind the following facts and cautions respecting its use:

1. Gasoline is an extremely dangerous, explosive substance.

2. It should be kept in a cool, well ventilated place, if possible out of doors, or in an outbuilding; never in a kitchen, closet or cellar.

3 A vessel containing gasoline, unless tightly closed, should never be brought within ten feet of a lamp, stove, grate, flame, or fire of any sort. The small flame of a match or even a spark is sufficient to explode the gas when present in sufficient quantity.

4. The vapor of gasoline may be carried by a draught or current of air, and thus be brought in contact with fire at considerable distance, even greater than that mentioned in the preceding paragraph; consequently gasoline should never be opened or poured from one vessel to another in a current of air, unless the current is from the room out of doors.

5. The danger in connection with the use of gasoline stoves is not so much in the stoves themselves as in having the gasoline about; yet by continued use, the valves of a stove may become worn so that leaks may occur, and thus a stove may become a source of great danger.

6. If an overflow of gasoline occurs from being turned on too freely, from leakage of valves, or from the blowing out of the generating burner, as sometimes accidentally occurs, the surplus gasoline should be carefully wiped up, and the room should be well aired by the opening up of windows and doors before the burner is lighted.

7. If an open vessel containing gasoline has been standing in a room over night, or an overflow has occurred during the night, or if there is found in a room a strong smell of gasoline at any time, the room should be opened and well aired, before a match is lighted or a lighted lamp or candle is carried into the room.

8. Gasoline should never be used for lighting a fire. An explosion, which may possibly be fatal in its effects, is almost certain to follow. Persons have been maimed for life this way.

9. The use of gasoline lamps is, if possible, attended with even greater dangers than the use of gasoline stoves.

10. A wise regard for safety will lead to the disuse of gasoline in any form for domestic purposes.

11. Gas or kerosene stoves may be substituted for gasoline stoves, but neither gas, gasoline, nor kerosene stoves are so safe or healthful as the ordinary wood or coal stove. The ordinary stoves aids in the ventilation of the room, and carries away the poisonous gases formed by the combustion of the fuel, whereas the other forms of stoves discharge the products of combustion into the air of the room, compelling the occupants to breathe the poisonous gases. Neither gas, gasoline, nor kerosene stoves should ever be employed in other than very open or well ventilated rooms, unless provided with a special flue or ventilating duct for the purpose of carrying off the products of combustion.

The Coca Plant in India.

The exceedingly high prices which coca leaves and their alkaloid cocaine attained shortly after the discovery of the anæsthetic properties of the latter a few years ago, as well as a suspicion that the Bolivian supply of the leaves would fall short of the European requirements, were sufficient inducement for planters in Ceylon to try what they could do with the coca, says the *Chemist and Druggist*. Cultivation of the plant was also undertaken at the National Botanic Gardens at Buitenzorg, near Batavia, and in the Madras Government cinchona plantations plants were also successfully reared. Since then it has become abundantly evident that South America can supply us with more coca than we have use for, and the cocaine manufactured there and exported to Europe in the crude state has greatly assisted in the marvellous depreciation in value which cocaine hydrochlorate has suffered since 1885. It cannot be said, however, that the cultivation of coca in the Indian possessions is entirely without interest, or that it should be abandoned because of the low market value of the drug; indeed, it must be remembered that the latter circumstance is due in part to the low quality of the leaves which are sent to this country, some yielding but a mere trace of alkaloid. It remains to be seen how far careful cultivation and harvesting would raise the quality. Nearly two years ago we published the result of an analysis by Mr. David Hooper of coca leaves grown at Bariiyar, in Madras, which showed that they were fairly rich in alkaloid, the yield having been 0·5 per cent. The cultivation of the leaves was also commenced in the province of Bengal, principally on tea plantations, and the progress of the venture has been carefully watched by Dr. C. J. H. Warden, chemical examiner to the Government of the province, who recently contributed an important paper on the subject to the Agricultural and Horticultural Society of India. Dr. Warden's paper contains a full account of the methods of cultivation, nature of the districts in which the leaves were grown, and the results of analyses of the leaves. In isolating the cocaine from the leaves Dr. Warden had difficulty, like Mr. Hooper, in obtaining "spontaneously crystallizable salts" on evaporation of aqueous solutions, and accordingly his figures may be taken to indicate too high results; but, on the other hand, a medical man who used the hydrochlorate in ophthalmic cases reports that he found no difference in the physiological effect of Dr. Warden's alkaloid from other cocaine, except that it appeared to have a quicker and slightly stronger action. It could not, therefore, have contained much of the amorphous substance which Dr. Stockman has found to be possessed of highly irritating properties.

The leaves examined were all recently cured, and were found to contain from 5·7 to 10·42 per cent of moisture, or an average of 9·21 per cent on the nine specimens examined, while the ash varied from 5·94 to 11·65 per cent—average, 8·42 per cent. A sample of leaves bought from a druggist in Calcutta contained 13·34 per cent of moisture and 9·77 per cent of ash. The amount of crude alkaloid obtained from the leaves varied from 0·322 to 1·56 per cent; average, 0·907 per cent. This must be considered a high result, for Dr. Squibb gives 0·892 as the highest which he has obtained from any one sample of South American leaves, the percentages generally varying between 0·420 and 0·828. The druggist's sample which Dr. Warden examined contained only 0·045 per cent of alkaloid. Closely connected with the percentages of alkaloid obtained is the influence of age, altitude, &c., thereon. For example, a sample of young leaves grown in one district yielded 1·069 per cent of alkaloid, while mature leaves from the same district yielded only 0·811 per cent. Altitude, however, does not appear to have much effect on the percentage of alkaloid. Taking two extreme cases: The coca grown on the Matelli Tea Company's garden, Jalpaiguri, at an elevation of 1,700 feet, yielded 1·022 per cent of alkaloids, while that grown at Arcottipore, in Cachar, at an elevation of only 120 feet, yielded from 1·3 to 1·6 per cent. Nor does the amount of rainfall appear to have any influence either way. But this cannot, as has been pointed out, be said of the maturity of the leaf. Dr. Warden giving another striking example, based on the results of the examination of the samples grown in the Horticultural Society's gardens, Alipore; the first sample having yielded only 0·358 per cent. of total alkaloid, while the second, examined about six weeks later, contained 0·674 per cent.

These data are sufficient to show that the cultivation of the coca plant in India is a marked success so far as its therapeutic value is concerned; and Dr. Warden has elicted important facts regarding cultivation, the application of which would enable planters to place on the market leaves of much higher and more regular alkaloidal value than those obtained from South America. It is well to keep in mind, however, that as time goes on less and less coca leaves will be brought from that source, their place being taken by crude cocaine. The price obtainable for good leaves here is about 1s per lb., and probably more would be obtained for leaves more carefully harvested and packed. As much care should, indeed, be expended on the packing of coca leaves as upon tea, as these articles resemble each other in their liability to deterioration during transit. The drug should be compressed and packed in tin-lined cases, so that the damp may not reach it.

New Business Enterprises.

The Lincoln heirs will build a cottonseed oil mill in Houston, Texas.

The Dixie Dynamite Co. has been charted in Chattanooga, Tenn. Also the Emmonite Powder Co.

The Columbus (Ga.) Fertilizing Co. are thinking of building a cottonseed oil mill later in the year.

A company will probably be formed to build a cottonseed oil mill and guano factory in Chipley, Ga.

The Cumberland (Md.) Oil and Natural Gas Co. have arranged with a syndicate to have ther well sunk deeper.

James H. A. Shaver will build a new paper mill for manufacturing manilla and straw wrapping paper in Freeland, Md.

The Bell's Pure Soap Co., lately reported as organized in Atlanta, Ga., have started a factory and contemplate building a large factory.

The Mahoneyville Distillery Co. of Portsmouth, Ky., has been organized with Edward Mahoney as president; Joseph L. Young, secretary, and John Mahoney, treasurer. Their capital stock is to be not less than $40,000 nor more than $300,000.

A new company is about to start a glass sand works at Dunbar, Pa., a few miles below Connellsville, on the Baltimore and Ohio Railroad. The increase in the price of glass sand by the miners and shippers last fall created much discontent among glass manufacturers, but they could do nothing, as all the sand men were combined, The window glass manufacturers for a time entertained a project of mining and preparing sand for themselves, but it fell through. The new company will for the present make only window house and green bottle sand, and they will fix their own prices outside of the combination.

Oils and Oil Seeds in India.

There is so much that one might say about the existing crops and the possible new crops of India, says Dr. Geo. Watt, that one scarce knows where to begin or what to say first. Speaking of the oil seeds, however, the greatest possible interest was taken at the late exhibition in the white form of linseed sent from the central provinces. Were it possible to develop this form to the exclusion of the red, a large trade would be done in it. The greatest danger to the Indian oil seed trade is the difficulty to induce the people to discoutinue their practice of adulteration, or to persuade them to be more careful in rooting up different crops growing in the same field. A comparatively small percentage of rapeseed mixed with the linseed renders it completely useless as a drying oil. Speaking of the rapeseed trade, on the other hand, few people seem to be aware that there is, practically, no mustard grown in India. The so-called mustard exported from India is, in some cases, better qualities of rape, or in others the Indian mustard—the small black and pitted seeds of Brassica juncea. It seems desirable that this fact should be more generally known, for should demand arise for Brassica alba or B. nigra—the true white and black mustards, these might easily enough be substituted for the white and black forms of B campestris or rapeseed, which seems to find a market as interior mustard.

CONTENTS.

EDITORIALS.....5
TRADE ITEMS.....6
PETROLEUM NOTES.....6
CHICAGO LETTER.....6
MISCELLANEOUS:—
The Randall Tariff Bill.....7
Cinchona Supply for 1888.....8
Adulteration of Pharmaceutical Extract...8
Examination of Lard.....8
Assignment of Mayer Bros. Co.....9
The Anchor Manufacturing Co. 9
Submarine Oil Springs.....9
German Methylated Spirits.....9
The Ohio Oil Fields.....9
A New Pipe Line.....9
The Lofoden Cod Fisheries.....10
German Eau de Cologne 10
Values of Fertilizers and Chemicals 10
Cotton Oil as a Food Product 10
Cultivation of Cinchona in Java 10
The Use of Oil at Sea 11
The Decomposition of Petroleum Naphtha.11
Alcohol Restrictions in Germany.....12
Danish Petroleum Bill 12
Russian Petroleum in Sweden.....12
The Paint Trade and the Tariff.....17
The Glass Industry in Bavaria.....17
Granite in Glass Making.....17
Brush Manufacturers and the Tariff.....17
A Physician's View of Oleomargarine.....27
New Use for Tar.....27
Exports of Mineral Oils for Feb., 1888.....33
The Bromine Absorption of Mineral Oils...33
Dangers in Gasoline.....33
The Coca Plant in India. 33
New Business Enterprises. 33
Oils and Oil Seeds in India. 33
Artificial Formation of Organic Substances.40
Indian Products 40
Red Lead as a Protection Against Rust...40
Does Cinchona Growing Pay?..... .40
Myrobolans Fruit as a Medicine.....40
Treating Bones with Acid.....40
Cork Substitutes.....46
Oil of Camphor and Oil of Sunflower.....46
Increased Sale of Fertilizers.....53
Boiling Point of Solution of Salt.....55
Fertilizer Sales in Connecticut 55
Value of Waste Lye from Soap Works.....55
Dissolving Bone, Etc.....55
Superphosphate of Bone.....55
Theory of Odors.....55
Ammonia as a Refrigerating Agent 56
Copperas as a Fertilizer.....56
The Salt Beds of the Tees 56
Nitrate of Soda Statistics 58
THE MARKETS
Paints.....15 to 20
Oils.....25 to 29
Naval Stores.....27
Petroleum.....31 to 33
Drugs.....45 to 8
Chemicals .....54 to
Dyes.....
PRICES CURRENT:
Paints, Varnishes, Etc.....4
Oils, Etc.....4
Drugs.....4
Chemicals.....54
Dyestuffs.....5
CUSTOMS DECISIONS.....

L. A. SALOMON & BRO.
MANUFACTURERS OF
EXTRA REFINED WOOD ALCOHOL,
PURE METHYL — INODORINE.
LOUIS A. SALOMON EST. 1867 NEW YORK AND
PERFECT SUBSTITUTES FOR GRAIN ALCOHOL FOR ALL MECHANICAL PURPOSES
216 PEARL ST. NEW YORK.

ESTABLISHED 1827.
B. A. FAHNESTOCK'S
VERMIFUGE
FOR HOME AND EXPORT TRADE.
J. E. SCHWARTZ & CO., PITTSBURGH, PA
Successors to B. A. Fahnestock's Son & Co.,
Sole Proprietors.
Observe particularly that the initials are B.A.

New York Tartar Co. 99% Cream of Tartar,
TARTARIC ACID.
No. 63 WILLIAM STREET, NEW YORK.

SOLUBLE ANTIMONY
(47 Per Cent. Antimony.)
Replaces perfectly Tartar Emetic in Dyeing and Printing.
A. KLIPSTEIN,
52 Cedar Street, - NEW YORK.
Sole U. S. Agent for the Manufacturers.

Every Copper bears our Label (Seal "J.C."—guaranteeing the purchaser the Finest Oil in every respect.

JAMES CHASKEL & CO.
DISTILLERS & IMPORTERS OF ESSENTIAL OILS, ETHERS, DRUGS, ESSENCES CHEMICALS, ETC.
93 John St., New York
HAND PRESSED
OIL OF LEMON, J. C.
MANUFACTURED AT
MESSINA,
EXPRESSLY FOR
JAMES CHASKEL & CO.

OUR
16 Page
PRICE LIST
CONTAINING OUR
MANY
SPECIALTIES
Mailed on Application

IMPORTS, EXPORTS, DOMESTIC RECEIPTS, Etc

IMPORTS ENTERED AT NEW YORK FOR CONSUMPTION,

DURING THE WEEK ENDING MARCH 10.

ACID—29 cs, Schering & G, Rugia, Hamburg
BORACIC—16 cks, 16751lb, J Marsching & Co, Alsatia, L'h'n
2 cks, 1324lb, C Cooper & Co, Amsterdam, Rotterdam
CARBOLIC—3 cs, 300lb, McKesson & R, R Hill, London
100 dms, 5600lb, J P Barnett, Republic, Liverpool
CITRIC—25 kgs, 2800lb, Lazell, D & Co, Denmark, London
PICRIC—40 cs, 4480lb, Pickhardt & K, Noordland, Antw'p
ROSALIC—1 cs, 28lb, J P Barnett, Republic, Liverpool
ACONITE ROOT—2 bls, 272lb, J Clay, Amsterdam, Rotterdam
ALIZARINE—6 cks, 2464lb, Beach & Co, R Hill, London
159 cks, 64842lb, Pickhardt & K, Amsterdam, R'dam
ALUMINUM—1 cs, C S Platt, Normandie, Havre
ANISEED—50 bgs, 11000lb, Fischer & E, Aurania, Liverpool
50 bgs, 11023lb, Weaver & Sterry, Aurania, Liverpool
ALBUMEN—5 cs, D A Griffen, Thingvalla, Copenhagen
ALUMINA SULPH—370 cks, 111000lb, E H Watson, Penniand, Antwerp
ANTIMONY—34 cks, Hendricks Bros, R Hill, London
ANNATTO SEED—5 bbls, 855lb, G Wessels & Co, E Godden, Montego Bay
280 pgs, Sandford & K, Athos, Kingston
19 pgs, 3382lb, Macy & Dunham, Athos, Kingston
25 pgs, 4170lb, G DeCordova & Co, Athos, Kingston
ANILINE COLORS—3 cks, J H Lowe, Normandie, Havre
4 cks, Banning, B & Co, Sorrento, Hamburg
8 cks, 1010lb, P H Karcher, Westerniand, Antwerp
4 cks, 14 8lb, Sykes & Street, Normandie, Havre
9 pgs, 2088lb, W J Matheson & Co, Normandie, Havre
117 pgs, Pickhardt & K, Amsterdam, R'dam
15 cks, 2400lb, Geisenheimer & Co, Trave, Bremen
7 cks, 750lb, Lutz & Movius, Trave, Bremen
4 cks, 1100lb, Heller & Merz, Trave, Bremen
4 pgs, E Sehlbach & Co, Trave, Bremen
4 pgs, 300lb, Lutz & Movius, Nevada, L'pool
12 pgs, 3892lb, R Holliday's Sons, Nevada, L'pool
OIL—12 dms, 11600lb, E Sehlbach & Co, Denmark, London
SALT—20 cks, 5793lb, Pickhardt & K, Amsterdam, R'dam
ARCHIL—10 bbls, 4567lb, Bavier, M & Co, Normandie, Havre
10 pgs, 4864lb, W J Matheson & Co, Normandie, Havre
10 bbls, W J Matheson & Co, Gascogne, Havre
ARGOLS—10 bgs, Davis, Wolt & Co, R Hill, London
22 cks, 27029lb, C Pfizer & Co, Aurania, L'pool
40 cks, 47392lb, N Y Tartar Co, Aurania, L'pool
46 cks, 40876lb, Loeb Bros, Alsatia, Leghorn
31 cks, 29388lb, N Y Tartar Co, Alsatia, Leghorn
20 cks, 26342lb, C Pfizer & Co, Alsatia, Leghorn
ASPHALT—123 tons, Gabriel & S, Tordenskjold, Bremen
ASPHALTUM—6 cks, Perry & Ryer, C of Chester, L'pool
BALSAM COP—35 cs, 2397lb, J Agostria, Rugia, Hamburg
BARK—13 pgs, 1869lb, J Clay, Amsterdam, Rotterdam
20 bls, 2972lb, Stallman & F, R Hill, London
BARYTES SULPH—40 cks, 39763lb, Gabriel & S, Sorrento, H'bg
BAY LEAVES—24 bls, Dodge & Olcott, Bermuda, Roseau
BERLIN BLUE—1 ck, J M Huber, Rugia, Hamburg
BLEACH—243 cks, 278829lb, E Hill's Son & Co, D City, N'castle
BRIMSTONE—203 tons, Parsons & Petit, Alsatia, Catania
300 tons, T & S C White, Alsatia, Catania
BRONZE POWDER—4 cs, 1140lb, J Marsching & Co, Rugia, H'g
8 cs, S Ullman, Rugia, Hamburg
2 cs, G H Barbey, Rugia, Hamburg
5 cs, F I Emmerich & Son, Trave, Bremen
3 cs, T Reissner, Trave, Bremen
11 cs, W Campbell & Co, Trave, Bremen
5 cs, 2500lb, J Sachs, Trave, Bremen
23 cs, G Meier & Co, Elbe, Bremen
3 cs, 1500lb, J Marsching & Co, Elbe, Bremen
4 cs, Dreyfus, K & Co, Elbe, Bremen
4 cs, Abegg, D & Co, Elbe, Bremen
CACAO BUTTER—12 bgs, 2328lb, W Hawes & Co, Amsterdam, Rotterdam
10 cs, 2240lb, Runkle Bros, Denmark, London
CARAMEL—20 cks, 13710lb, V Loewi, Thingvalla, Stettin
CARAWAY SEED—200 bls, 22330lb, L German, Amsterdam, A'm
100 bls, Kaufman Bros, Amsterdam, Amsterdam
100 bls, 11165lb, J H Rocknagel, Leerdam, Amsterdam
CASTOR BEANS—512 bgs, 1140 bush, M B Snively, Republic, L'l
CARDAMOMS—10 cs, 740lb, J Clay, R Hill, London
1 cs, 144lb, McKesson & R, R Hill, London
1 cs, 175lb, J Clay, Denmark, London
CASSIA BUDS—50 cs, Groat & Kissock, R Hill, London
CANARY SEED—3 bgs, 330lb, A Merkle, Elbe, Bremen
250 bgs, 5500lb, C Rosenstein & Co, Alsatia, Palermo
450 bgs, 9925lb, Thurber, W & Co, Alsatia, Palermo
3 bgs, C Reiche & Bro, Elbe, Bremen
CHEMICALS—1 cs, L Englehorn, Penniand, Antwerp
25 kgs, 8 pgs, W H Schieffelin & Co, Amsterdam, R'd'm
21 cks, 1 cs, C Cooper & Co, Amsterdam, Rotterdam
31 pgs, Schering & G, Rugia, Hamburg
31 cs, T Weicker, Amsterdam, Rotterdam
2 cs, F A Reichardt & Co, Rugia, Hamburg
10 cs, 5000 ozs, Lutz & Movius, Trave, Bremen
10 cs, Scott & B, R Hill, London
1 cs, J Clay, Elbe, Bremen
1 cs, J Clay, Trave, Bremen
4 cks, Pickhardt & K, Trave, Bremen
CEMENT—1000 cks, H Fleming, D City, Newcastle
1008 cks, Batjer & M, Sorrento, Hamburg
3888 bbls, Sinclair & B, Christel, Hamburg
550 cks, J Brand, R Hill, London
550 cks, First National Bank Chicago, R Hill, London
500 bbls, J W Binney, Austria, London
CHAMOIS—6 cs, T L Lutkins, Republic, Liverpool
1 cs, Strauss Bros & Co, Republic, Liverpool
3 cs, R F Downing & Co, Normandie, Havre
CHALK—20 cks, 6360lb, W H Schieffelin & Co, Adriatic, L'pool
110 tons, F W J Hurst, Denmark, London
CINCHONA BARK—138 bls, 38956lb, N Y Quinine & Chem Co R Hill, London
36 b's, 14000lb, Howe, Balch & Tay, Denmark, London
CINCHONIDIA—50 cs, 50000 ozs, L Englehorn, Penniand, Ant'p
CHAMOMILES—7 bls, 754lb, J Clay, Amsterdam, Rotterdam
CHESTNUT EXT—300 cs, 39650lb, Liebman & B, Alsatia, Genoa
CLOVES—200 bls, Howe, Balch & Tay, C of Chester, L'pool
200 bls, 28000lb, Carleton & M, C of Chester, L'pool
252 bls, 33793lb, J H Rocknagel, R Hill, London
100 bls, 13285lb, G B Morewood & Co, Denmark, London
1 bl, 130lb, Carleton & M, Denmark, London
199 bls, G F Nixon Denmark, London
11 bls, 1540lb, J H Rocknagel, Denmark, London
STALKS—6 bgs, 356lb, M Koenigsheim, Denmark, London
CLAY—56 tons, J Goeble & Co, Elbe, Bremen
82 tons, J Goeble & Co, Trave, Bremen
CROCUS MARTUS—5 bgs, 840lb, J W Binney, Otranto, N'tle
COLCOTHAR—23 cks, 13631lb, E S Morris, R Hill, London
COLORS—1 cs, A Keppelman, Trave, Bremen
2 cs, A V Benoit, Normandie, Havre
36 cs, Pickhardt & K, Amsterdam, Rotterdam
3 cs, J Marsching & Co, Republic, Liverpool
33 pgs, 16311lb, Pickhardt & K, Rugia, Hamburg
COAL TAR PITCH—4 cks, C B Richards & Co, Rugia, H'burg
COPPERAS—3 cks, 1245lb, W H Schieffelin & Co, Amsterdam, Amsterdam
COBALT—5 cs, 500lb, L Feuchtwanger & Co, Rugia, Hamburg
CUTCH—2130 bgs, F Losee, Britannia, Calcutta
302 bgs, 3 831lb, T K Cummins & Co, R Hill, London
CUTTLEFISH—9 cs, 598lb, Stallman & F, Benglos, Hiogo
DEXTRINE—200 bgs, 43128lb, J Davie's Sons, Thingvalla, S'n
DUTCH METAL—1 cs, A Sartorius & Co, Trave, Bremen
DIVI DIVI—44 bgs, 2500lb, B de Sola, Valencia, Curacao
443 bgs, 37043lb, Foulke & Co, Valencia, Curacao
278 bgs, 24420lb, Suzarte & W, Valencia, Curacao
CUBEBS—10 bgs, 923lb, J B Horner, Denmark, London
DRUGS—20 pgs, R Brueckner & Co, Bassano, Hull
3 pgs, Eimer & Amend, Rugia, Hamburg
29 bgs, 4072lb, Stallman & F, R Hill, London
16 cs, 2241lb, Stallman & F, R Hill, London
5 bbls, Read and Canarick, P Monarch, London
2 pgs, Lazell D & Co, Denmark, London
1 cs, Dodge & Olcott, R Hill, London
19 pgs, McKesson & R, Sorrento, Hamburg
CUDBEAR—18 cks, 9539lb, Stamford M'fg Co, R Hill, London
6 cks, W J Matheson & Co, Denmark, London
5 cks, 4732lb, J C Bloomfield & Co, Denmark, London
DANDELION—13 bls, 2905lb, McKesson & R, Sorrento, H'burg
EMERYSTONE—144 tons, J C McAndrew, G de Abundo, Smy'a
FISH SOUNDS—12 bl 5lb, D A De Lima & Co, Valencia, C'a'o

7 bls, 1201lb, Suzarte & W, Nalencia, Curacao
8 bls, 484lb, Schering & G, Rugia, Hamburg
FULLERS EARTH—30 tons, Hammill & G, R Hill, London
70 tons, Hammill & G, Denmark, London
FRANKFORT BLACK—20 cks, A B Ansbacher & Co, Amsterdam, Rotterdam
1 ck, 671lb, L W Morris & Son, Amsterdam, R'dam
FUSTIC—317 pcs, A M Seixas, C Gray, Neuvitas
EXT—15 cks, 7242lb, Banning, B & Co, Normandie, Havre
GALLS—122 bgs, 27030lb, C Pfizer & Co, R Hill, London
115 cs, G B Morewood & Co, Denmark, London
EXT—5 bbls, 2580lb, Hensel, Brueckman & L, Trave, B'men
GELATINE—1 cs, P Maresi, Normandie, Havre
5 cs, 957lb, E & H T Anthony, Amsterdam, R'dam
4 bls, F Hallett & Co, Bengloe, Yokohama
15 cs, J P Smith, Denmark, London
11 cs, 1100lb, McKesson & R, Sorrento, Hamburg
1 cs, 110lb, A Hodge & Co, R Hill, London
GLUCOSE—25 cks, 25883lb, V Loewi, Thingvalla, Stettin
GLASS, ENAMELED AND COLORED—161 cs, H H Cahn, Westerniand, Antwerp
MIRROR—11 cs, 6110 ft, S Cohn, Amsterdam, Rotterdam
14 cs, 7054 ft, Vanhorne, G & Co, Amsterdam, R'dam
23 cs, 12413 ft, S Bache & Co, Amsterdam, Rotterdam
12 cs, 6346 ft, A Arnstein & Co, Amsterdam, Rotterdam
43 cs, 25145 ft, Bendit & Co, Amsterdam, Rotterdam
21 cs, 11936 ft, S Binswanger & Co, Amsterdam, R'dam
CATHEDRAL—22 cs, 11351lb, Vanhorne, G & Co, State of Pennsylvania, Glasgow
PLATE—13 cs, 4521 ft, J A Waller, Republic, Live pool
35 cs, 18197 lb, S Bache & Co, State of Alabama, G'gow
34 cs, 9976 ft, H H Cahn, Westerniand, Antwerp
4 cs, 910 ft, J Zahn, Elbe, Bremen
12 cs, 6396 ft, S Bache & Co, State of Pennsylvania, G'w
UNPOLISHED—92 cs, 18332lb, R F Downing & Co, Trave, Bremen
WINDOW—505 cs, 28540lb, N Cowen & Son, Westerniand, Antwerp
5 cs, 436lb, S Bache & Co, Rugia, Hamburg
GINGER—8 bbls, 934lb, G De Cordova, Athos, Kingston
GLYCERINE, CRUDE—25 cks, 12525lb. Marx & Rawolle, Normandie, Havre
40 dms, 43241lb, Marx & Rawolle, Alsatia, Genoa
REFINED—11 cs, 518lb, McKesson & R, R Hill, London
10 cs, 500lb, W H Schieffelin & Co, Denmark, London
GLUE—18 cks, 9106lb, Townsend & B, Rugia, Hamburg
60 cks, 30505lb, A Hodge & Co, R Hill, London
15 cks, 6540lb, A E Reimann, Denmark, London
10 cks, 9300lb, S Isaacs & Co, R Hill, London
GRAPE SUGAR—300 cs, 33000lb, V Loewi, Thingvalla, Stettin
GOLD SIZE—13 pgs, Pomeroy & F, Denmark, London
GUM ARABIC—9 cs, 2856lb, D E Green, Rugia, Hamburg
20 bls, 4463lb, D E Green, R Hill, London
COPAL—29 bbls, Murphy & Co, Denmark, London
189 bgs, 29040lb, G A Alden & Co, Amsterdam, A'dam
CHICLE—51 bgs, 11608lb, E & H T Anthony, C of Alexandria, Tuxpan
334 bgs, 63697lb, J W Wilson & Co, C of Alexandria, Tux'n
120 bgs, H A Forrest & Co, C of Alexandria, Tuxpan
DAMAR—98 cs, 14143lb, J R Townsend & Co, Amsterdam, A'm
10 cs, 1171lb, Perry & Ryer, R Hill, London
KAURI—2 cs, 252lb, Walker Gum Co, R Hill, London
TRAG—53 cs, 9039lb, Thurston & B, R Hill, London
42 cs, G B Morewood & Co, Denmark, London
13 cs, 2397lb, Schulze-Berge & K, Denmark, London
12 cs, 2128lb, Thurston & B, Denmark, London
9 cs, 1516lb, Lazell, D & Co, Denmark, London
HEMPSEED—553 bgs, 92904lb, Thurber, W & Co, Denmark, L'don
INDIGO—38 cs, 6772lb, Packard & J, R Hill, London
29 cs, C P Duffee, R Hill, London
92 cs, 25147lb, J L & D S Riker, R Hill, London
97 cs, J L & D S Riker, Hesperia, Calcutta
18 cs, 4766lb, Carleton & M, Hesperia, Calcutta
5 ser, 750lb, J Aparaco & Co, Colon, Aspinwall
53 cs, Howe, Balch & Tay, Hesperia, Calcutta
103 cs, Coit, Ogden & F, Hesperia, Calcutta
198 cs, O S Janney & Co, Hesperia, Calcutta
31 cs, 9369lb, Amoskeag Mfg Co, Hesperia, Calcutta
169 cs, 46448lb, Whitney Bros & Co, Hesperia, Calcutta
45 cs, 6720lb, C P Duffee, Hesperia, Calcutta
21 cs, 6216lb, J Martin & Co, Hesperia, Calcutta
8 cs, 2518lb, J C Bloomfield & Co, Hesperia, Calcutta
INSECT FLOWERS—116 bls, 48328lb, Stallman & F, California, Trieste
IODINE—17 bbls, E W Gompers, Aurania, L'pool
20 cks, 13827lb, Watjen, T & Co, Denmark, London
IPECAC—10 ser, 999lb, J Clay, R Hill, London
6 bls, Dodge & Olcott, London
5 ser, 410lb, J Clay, Denmark, London
IRISH MOSS—10 bls, 2167lb, J Clay, Amsterdam, Rotterdam
IRON OXIDE—10 cks, 1680lb, J W Binney, Otranto, Newcastle
INDIAN RED—18 cks, 3024lb, J W Binney, Otranto, Newcastle
ISINGLASS—2 cs, 475lb, McKesson & R, Rugia, Hamburg
JALAP—9 bls, 930lb, P Phillippison & Co, C of Alexandria, V C
JUNIPER BERRIES—68 bls, 8862lb, Lehn & Fink, Alsatia, L'n
35 bls, 4519lb, R Hillier's Son & Co, Alsatia, Livorna
KAINIT—399 tons, P Weidinger, Sorrento, Hamburg
LAKE—1 cs, 45lb, G A & E Meyer, Republic, Liverpool
LICORICE ROOT—3323 bls, 1115102lb, J C McAndrew & Co, G de Abundo, Smyrna
LIME ARSEN—2 cs, E S Morris, R Hill, London
LINSEED—1103 bgs, Atlantic W L & Linseed Oil Co, Hesperia, Calcutta
3502 bgs, 10197 bush, Atlantic W L & Linseed Oil Co, R Hill, London
600 bgs, 17392lb, Simmonds & G, R Hill, London
10531 bgs, 37078lb, Ralli Bros, Hesperia, Calcutta
LEAVES—15 bls, 4750lb, Stallman & F, Aurania, Liverpool
10 bls, 1600lb, Ascensio & Co, San Marcos Cardenas
LITHIUM CARB—1 cs, 25lb, R Brueckner & Co, Bassano, Hull
LUPULINUM—1 cs, 250lb, J H Margentino & Co, Sorrento, H'g
MAGNESIA CARB—20 cs, 2415lb, McKesson & R, Aurania, L'l
MANGANESE—3 cks, J E White & Co, C of Chester, L'pool
MALLOW FLOWERS—4 bls, 431lb, J Clay, Amsterdam, R'dam
MADDER—7 cks, 7288lb, J L Morgan & Co, Amsterdam, A'dam
5 cks, 6736lb, C C Abel & Co, Amsterdam, Amsterdam
5 cks, 7267 Packard & J, Amsterdam, Amsterdam
10 cks, 14939lb, Stamford M'f'g Co, Amsterdam, Adam
15 cks, N Y Dye Ext & C Co, Amsterdam, Amsterdam
MANURE SALT—1000 bgs, H J Baker & Bro, Rugia, H'burg
3000 bgs, 651500lb, Heller Hirsh & Co, Sorrento, H'burg
MAGNESIUM—1 cs, C T White & Son, Trave, Bremen
MILK SUGAR—10 cs, 2831lb, R Brueckner & Co, Normandie, H'e
3 cs, 674lb, M Koenigsheim, Rugia, Hamburg
MILLET SEED—50 bls, F H Leggett & Co, P Giacomo, M'iles
MORPHINE—13 cs, 650 ozs, F J Macnaughton, Circassia, G'gow
MUSTARDSEED—100 bgs, 33000lb, C Rosenstein & Co, R Hill, L'n
MUSK—1 bx, Dodge & Olcott, Denmark, London
NUTMEGS—57 cs, 7034lb, E R Durkee & Co, Denmark, London
264 cs, 18398lb, J H Recknagel, Denmark, London
OCHER—300 cks, 214669lb, F A Reichard, P Giacomo, Marseilles
100 cks, 67527lb, J L Smith & Co, P Giacomo, Marseilles
50 cks, 37312lb, W E Browne & Co, P Giacomo, Mars's
22 cks, 12100lb, Pomeroy & F, Denmark, London
OIL ANISE—20 cs, West & Jenney, Honolulu, Hong Kong
ALMOND—6 cs, 825lb, W H Schieffelin & Co, R Hill, L'n
5 cs, 125lb, J B Horner, Denmark, London
ANGELICA—1 cs, 10lb, G Lueders, Trave, Bremen
AMBER—3 cs, 300lb, G Lueders, Trave, Bremen
CARAWAY—2 cs, 250 lb, G Lueders, Trave, Bremen
CEDAR—2 cks, 780lb, G Lueders, Trave, Bremen
CASSIA—50 cs, 3334lb, Fritzsche Bros, Denmark, London
CINNAMON—1 cs, 10lb, G Lueders, Trave, Bremen
CUMMIN—1 cs, 10lb, G Lueders, Trave, Bremen
COD LIVER—90 bbls, Scott & B, Colorado, Hull
BERGAMOT—21 cs, C Morningstar & Co, City of Truro, Messina
50 cs, 2000lb, Lanman & K, Alsatia, Messina
50 cs, Dodge & Olcott, Alsatia, Messina
ESS—3 cs, Dodge & Olcott, Rugia, Havre
2 cs, 132lb, T T Grossmith, Normandie, Havre
HARLEM—1 cs, L W Morris & Son, Amsterdam, A'dam
HELIATROPE—3 cs, 22lb, L Bernard & Co, Normandie, H'e
JUNIPER—2 cs, 100lb, G Lueders, Trave, Bremen
LEMON—55 cs, C Morningstar & Co, C of Truro, Messina
100 cs, Dodge & Olcott, Alsatia, Messina
LAVENDER—5 cs, Dodge & Olcott, Rugia, Havre
LIMES—2 cs, 95lb, J B Horner, Denmark, London
NUT—1 kg, 13 gls, J Wile & Bro, Amsterdam, A'dam
NEROLI—1 cs, 13lb, T T Grossmith, Normandie, Havre
1 cs, Dodge & Olcott, Rugia, Havre
ORANGE—1 cs, C Morningstar & Co, C of Truro, Messina
23 cs, Dodge & Olcott, Alsatia, Messina
OLIVE—6 bbls, 303 gls, H Foster, Alesia, Marseilles
6 cks, C Morningstar & Co, C of Truro, Messina
ORRIS—1 cs, 10lb, G Lueders, Trave, Bremen
ROSEMARY—2 cs, 200lb, G Lueders, Trave, Bremen
SANDAL—2 cs, 100lb, G Lueders, Trave, Bremen
SESA E—6 cs, M Shampin, India, Trieste
THYME—5 cs, Dodge & Olcott, Rugia, Havre
OINTMENT—3 cs, Morningstar & H, Rugia, Hamburg
ORANGE LEAD—30 cks, 22082lb, J L Smith & Co, Amsterdam, Rotterdam
76 cks, 55040lb, Pickhardt & K, Amsterdam, R'dam
3 cks, 1274lb, J M Huber, Rugia, Hamburg
25 cks, 27512lb, F A Reichard, Bourgogne, Havre
10 cks, 3360lb, J W Binney, Otranto, Newcastle
PAINT—6 cks, 4525lb, A F Pease & Co, Buffalo, London
9 pgs, J M Huber, Rugia, Hamburg
PEPPER—385 bgs, 51401lb, J H Recknagel, R Hill, London
PERFUMED WATER—25 cs, Dodge & Olcott, P Giacomo, M'lls
PERFUME—12 cs, 72 gls, Park & Tilford, Normandie, Havre
4 cs, 21 gls, Park & Tilford, Denmark, London
PITCH—17 cks, 1594lb, D Rosenberg & Son, Amsterdam, R'dam
POMADE—8 cs, 763lb, T T Grossmith, Normandie, Havre
1 cs, Dodge & Olcott, Rugia, Havre
POTASH BICH—17 cks, 9670lb, J L & D S Riker, S of Alabama, Glasgow
15 cks, F A Reichardt & Co, Amsterdam, Rotterdam
CHLO—150 kgs, 16800lb, Davis Wolt & Co, Republic, L'pool
50 cks, 28900lb, J L & D S Riker, Bassano, Hull
CARB—30 cks, 30483lb, A Klipstein, Amsterdam, R'dam
CRYSTALS—2 kgs, Loos & S, Servia, Liverpool
POLISH—50 bbls, Borsum Bros, Olympia, Trieste
POPPY SEED—100 bls, 10800lb, Levy & L, Amsterdam, R'dam
QUININE—20 cs, 10000 ozs, J L & D S Riker, Trave, Bremen
5 cs, 1250 ozs, L Englehorn, Pennland, Antwerp
RHUBARB—11 cs, 1418lb, J Clay, Denmark, London
ROSE PINK—5 kgs, 840lb, J W Binney, Otranto, Newcastle
ROOTS—10 cks, 3382lb, Elmer & Amend, Rugia, Hamburg
39 bls, Stallman & F, P Giacomo, Marseilles
10 cs, 1507lb, Stallman & F, R Hill, London
3 cks, 1418lb, Stallman & F, R Hill, London
RAPESEED—2 bgs, 220lb, A Merkle, Elbe, Bremen
SALICINE—2 cs, 175lb, F J Macnaughtan, Circassia, Glasgow
SALTPETER—954 bgs, 188577lb, Ralli Bros, Pythomene, Calcutta
654 bgs, 113946lb, Knudson, P & Co, El Capitan, Calcutta
SAFFRON—5 bls, 610lb, P Phillippison & Co, C of Alex, Vera C'z
SAGO—10 bgs, 2200lb, W Haaker Co, Thingvalla, Swinemunde
98 bgs, 22000lb, Rosenstein Bros, Amsterdam, R'dam
SAFFLOWER EXTRACT—10 cs, 500 lb, Pickhardt & K, Denmark, London
SEED—100 bls, 22050lb, Stallman & F, California, Trieste
64 bgs, Dodge & Olcott, R Hill, London
25 bgs, 4152lb, Stallman & F, R Hill, London
13 bgs, 1540lb, Stallman & F, Rugia, Hamburg
SENNA—30 bls, 8725lb, R Brueckner & Co, R Hill, London
20 bls, 5.90lb, M Koenigsheim, R Hill, London
SHELLAC—200 cs, 36242lb, N Y Shellac Co, R Hill, London
750 cs, 137280lb, Rogers & Pyatt, R Hill, London
25 cs, G B Morewood & Co, Hesperia, Calcutta
25 cs, 2068lb, Perry & Ryer, Hesperia, Calcutta

SOLUBLE STANNATE OF SODA

W. A. ROSS & BRO.
56 PINE ST.,
NEW YORK.

CARBONATE OF AMMONIA.
Chlorate of Potash.
Oxalic Acid.
Zinc Dust. (Indigo Auxiliary.)
Blood and Egg ALBUMEN.
ANILINE COLORS.

Schulze-Berge & Koechl,
75 PINE STREET, NEW YORK.
IMPORTERS OF CHEMICALS AND DYESTUFFS,
AND SOLE AGENTS FOR
Salol, pat'd, the new Antiseptic.
Made under License of the Patentees of Dr. F. v. Heyden, nachf. Radebeu

MIRBANE OIL.
Pure Aniline Oil & Salt
SALICYLIC ACID.
Archil Extract.
Indigo Extract.
ALIZARINE.

ABRAM De RONDE & CO.
12 Cedar Street, New York.
Importers and Manufacturers
Chemicals AND Dyestuffs.
Dyewood Extracts, Archil, Indigo, Sumac, Bark, Chestnut, Hemlock,
Cudbear, Sumac American, Sumac Sicily, Gambier, Cutch, Divi Divi, Nut Galls,
Tin Crystals, Stannate Soda, Muriate Tin, Oxy Mur. Tin, Oxy Mur. Antimony, Antimony Salts, Nitrate Copper,
Nitrate Iron, Iron Liquor, Prussiate Potash, Red " " Yel.
Oxalic Acid, Glauber Salt, Fullers Earth

50 cs, 8609lb, N Y Shellac Co, Hesperia, Calcutta
SIENNA—22 cks, 10727lb, W H King, Caledonia, Leghorn
SOAP CASTILE—86 cs, 18086lb, W Heuermann, Aurania, L'pool
200 bxs, 8219lb, J Herzog, California, Leghorn
800 bxs, 27522lb, H Batjer & Bro, P Giacomo, Marseilles
100 cs, 5227lb, Liebman & B, Alsatia, Genoa
POWDER—5 cks, 1451lb, J H Rossbach & Bro, R Hill, L'don
SODA ASH—41 cks, 56516lb, R Crooks & Co, C of Chester, L'pool
118 cks, 223824lb, J L & D S Riker, C of Chester, L'pool
CAUSTIC—300 dms, 195000lb, T M Marc, Republic, L'pool
531 dms, 337196lb, E Hill's Son & Co, D City, Newcastle
100 dms, 64197lb, J L & D S Riker, Republic, L'pool
CARB—100 cks, 560 0lb, E Hill's Son & Co, D City, N'tle
140 bbls, 56000lb, J L & D S Riker, Republic, L'pool
SAL—131 cks, 56000lb, E Hill's Son & Co, D City, Newcastle
SPONGE—51 bls, C A Salmon & Co, San Marcos, Havana
STRONTIA NITRATE—31 bbls, 8844lb, Rogers & P, Rugia, H'g
STROPHANTI SEED—1 cs, 20lb, McKesson & R, R Hill, London
SULPHER LAC—6 cks, 1988lb, Lazell, D & Co, Denmark, L'don
TUSCAN RED—10 cks, 1630lb, J W Binney, Otranto, Newcastle
TONCA BEANS—2 cs, G B Morewood & Co, Denmark, London
ULTRAMARINE—20 cks, 12109lb, Pickhardt & K, Amsterdam, R'm
1 cs, 224lb, J M Huber, Rugia, Hamburg
UMBER—8 cks, 4509lb, E S Morris, R Hill, London
VENETIAN RED—12 cks, 4290lb, E S Morris, R Hill, London
140 cks, 57040lb, J W Binney, Otranto, Newcastle
VANILLA BEANS—3 cs, 170lb, H W Henning & Son, Normandie, Havre
2 cs, 235lb, L Bernard & Co, Normandie, Havre
VARNISH—1 bbl, 50 gls, W & H Erdtman, Rugia, Hamburg
1 cs, 3 gls, C Shaw, S of Penna, Glasgow
1 cs, A V Benoit, Normandie, Havre
1 cs, Struller, L & Co, Normandie, Havre
97 pgs, 1343 gls, Pomeroy & F, Denmark, London
WASH BLUE—2 cs, 500lb, C F Zentgraf, Westerniand, Antwerp
ZINC OXIDE—92 bbls, 20286lb, J Macy's Sons, Thingvalla, St'tin
10 bbls, 2860lb, U De Comeau, Normandie, Havre
160 bbls, 33069lb, L Windmuller & R, Amsterdam, R'dam

—o—

WAREHOUSED.

ANILINE COLORS—10 pgs, C Georgi, Elbe, Bremen
12 pgs, 758lb, Sykes & Street, Normandie, Havre
82 pgs, 6970lb, H A Gould & Co, Elbe, Bremen
35 pgs, C Georgi, Westerniand, Antwerp
10 pgs, 1250lb, Banning, B & Co, Sorrento, Hamburg
213 pgs, Pickhardt & K, Amsterdam, Rotterdam
44 pgs, 2950lb, H A Gould & Co, Trave, Bremen
95 pgs, 14230lb, W J Matheson & Co, Trave, Bremen
ANTIMONY—120 cks, American Metal Co, Denmark, London
CACAO BUTTER—30 cs, 6096lb, H Martin, Denmark, London
14 bgs, 2383lb, H Martin, Amsterdam, Amsterdam
CHEMICAL COMP—1 ck, Pickhardt & K, Amsterdam, R'dam
DEXTRINE—500 bgs, 108321lb, C Morningstar & Co, Thingvalla, S'n
GLYCERINE REF—20 dms, 22114lb, O Kornemann, Pennland, A'p
CRUDE—10 dms, 10809lb, J E Schweizer & Co, Amsterdam, Rotterdam
GLUE—20 cks, 8694lb, A Hodge & Co, R Hill, London
GLAUBER SALTS—8 pgs, C Georgi, Westerniand, Antwerp
LINSEED—20000 bgs, 65993 bush, J A Dean & Co, Hesperia, C'l'ta
MATCHES—420 cs, C Rosenstein & Co, Bassano, Gothenburg
MORPHINE—23 cs, 1100 ozs, F J Macnaughton, Circassia, G'go w
OIL ESS—2 cs, Dodge & O, Rugia, Havre
17 cs, H Garbe, Bengloe, Hiogo
PIMENTO—2 cs, 19lb, J B Horner, Denmark, London
OPIUM—50 cs, 6489lb, Paddock & F, C of Chester, Liverpool
14 cs, 2092lb, Laforme & F, C of Chester, Liverpool
PERFUME—12 cs, 29 gls, H Dreyfus, Normandie, Havre
POTASH BICH—142 cks, 111763lb, J L & S Riker, S of Alabama, Glasgow
SODA BICH—19 cks, 14882lb, J L & D S Riker, S of Alabama, G'w
SIZE—8 cks, P Schiffiin, Rugia, Hamburg
SOAP CASTILE—100 cs, Janssen & Co, P Giacomo, M'seilles
SODA CAUSTIC—100 dms, 65000lb, J L & D S Riker, C of Chester, Liverpool
ULTRAMARINE—10 cks, 5512lb, Pickhardt & K, Amsterdam, A'm
UMBER—350 bgs, 111330lb, J C Seager, J Hamnett, Leghorn

—o—

IMPORTS AT NEW ORLEANS.

Week ending March 9.

CEMENT—4180 bbls, Marie Louise, Bremerhaven
POTASH—20 cks, Marie Louise, Bremerhaven

—o—

IMPORTS AT BALTIMORE.

Week ending March 9.

BLEACH—111 cks, Sarmatian, Liverpool
POTASH CARB—30 pgs, Sarmatian, Liverpool
SODA CAUSTIC—100 bbls, 100 dms, 100 bxs, Sarmatian, L'pool

—o—

IMPORTS AT PHILADELPHIA.

Week ending March 9.

ASPHALT—550 tons, Yamoyden, Pt Spain
BARK—209 pgs, Powers & W, Toledo, London
BLEACH—50 cks, E Yarnall & Son, Br King, L'pool
CORKWOOD—655 bls, L Johnson & Co, Vasa, Lisbon
GREASE—25 bbls, Br King, L'pool
GLASS—10 pgs, W Reid, Br King, L'pool
10 cs, G F Kimball, Br King, L'pool
WINDOW—700 bxs, Drey & Kahn, Br King, L'pool
INDIGO—20 cs, Toledo, London
MADDER—10 cks, Toledo, London
POTASH—5 cks, Powers & W, Toledo, London
RHUBARB—3 cks, C L Cummings, Toledo, London
SODA ASH—445 cks, Br King, L,pool
CAUSTIC—100 dms, C Smith & Co, Br King, L'pool
100 dms, order, Br King, L'pool
50 dms, E Yarnall & Son, Br King, L'pool

—o—

IMPORTS AT BOSTON

Week Ending March 10.

ANILINE COLORS—2 cs, J A & W Bird & Co, P de Coninck, A'p
SALT—45 bbls, A Klipstein, P De Coninck, Antwerp
ANTIMONY—20 cks, Phelps, D & Co, S City, London
BLEACH—88 cks, Roman, Liverpool
CEMENT—300 bbls, A Young & Co, S City, London
750 cks, order, S City, London
CLOVES—25 bls, order, S City, London
CUTCH—1000 bgs, 1404 bxs, order, S City, London
CHINA CLAY—549 cks, Roman, Liverpool
COLORS—16 cks, Cephalonia, Liverpool
22 pgs, Stone & Downer, P De Coninck, Antwerp
EMERY—6 cs, D W King & Co, Cephalonia, Liverpool
140 kgs, D W King & Co, S City, London
GALLS—25 bgs, C Von Pustau & Co, Cephalonia, Liverpool
30 cs, S City, London
GELATINE—10 cs, S S Pierce & Co, Cephalonia, Liverpool
GLASS PLATE—25 cs, Lambert Bros, P De Coninck, Antwerp
WINDOW—3 cs, R Sherburne, P De Coninck, Antwerp
GUM TRAG—72 cs, S City, London
GREASE—36 cks, S City, London
LOGWOOD—230 tons, Mersey Belle, St Thomas
290000 lbs, Dupuy, R & Co, H Republic, Hayti
381000 lbs, Lyon, D & Co, H Republic, Hayti
290000 lbs, H Kaines & Co, H Republic, Hayti
POMADE—12 cs, E Meyers & Co, Roman, Liverpool
ROSIN—14 bbls, Cephalonia, Liverpool
SOAP, CASTILE—500 bxs, S City, London
SODA ASH—151 cks, Cephalonia, Liverpool
196 cks, Roman, Liverpool
CAUSTIC—300 dms, E & F King & Co, Roman, Liverpool

E. MERCK,

Manufacturing Chemist,

73 WILLIAM STREET, NEW YORK,

Just Received

FROM HIS

DARMSTADT-LABORATORIES.

ACID BENZOIC,
Acid Cathartic,
Acid Chromic,
Acid Chrysophanic,
Acid Fumaric,
Acid Pyrogallic,
ACID SALICYLIC,
ALOINE,
ATROPIA SULPHATE,
COCAINE HYDROCHLOR. CH. P.
Crotonchloralhydrate
DIGITALINE,
Elaterium,
ERGOTINE BONJEAN,
ERYTHROPHLEINE HYDROCHLOR.,
Eucalyptol,
Helenine,
Heliotropine,
Hydrochinon,
ICHTHYOL,
IODOL,
Lactucarium,
Lithia Preparations,
OIL OF MALE FERN,
Para-Cotoine,
PARALDEHYDE,
Papayotine,
Pancreatin,
PEPSINE 1 : 1000,
PERMANGANATE OF POTASH
Pilocarpine,
Piperine,
Pyridine,
PHYSOSTIGMINE (ESERINE),
Potash, Carbonate,
Potash, Caustic,
Salicine,
SPARTEINE SULPHATE,
Strophanthine (Glycoside),
Soda Carbonate,
TERPINHYDRAT,
Terebene,
TINCT. STROPHANTHI,
Urethan, etc., etc.,

BESIDES A FULL LINE OF

ALKALOIDS, RARE CHEMICALS,

AND

New Preparations.

WITHDRAWALS FROM BOND.

Week ending March 10, 1888.

Acid citric, kgs	10
Aniline colors, pgs	254
Antimony, cks	5
Bay rum, pgs	5
Cacao butter, cs	28
Cement, bbls	475
Corks, bls	35
Glass plate, cs	3
Glass window, cs	163
Glycerine ref, dms	5
Glauber salt, cks	7
Lead, pigs	787
Licorice paste, cs	40
Linseed, bgs	10000
Magnesia carb, cs	5
Oil codliver, bbls	23
Opium, cs	9
Perfume, cs	8
Potato flour, bgs	170
Soap castile, cs	148
Soda bich, cks	100
Soda caustic, dms	50
Soda carb, kgs	10
Soda bicarb, kgs	10
Sponge, cs	36
Sponge, bls	65
Sumac extract, cks	39
Vanilline, cs	3

TOTAL DOMESTIC RECEIPTS

FOR WEEK ENDING MARCH 12, 1888.

		For week.	Since Jan 1.
Alcohol	bbls.	394	6247
Ashes	pkgs.	57	402
Beeswax	pkgs.	5	98
Borax	pkgs.	..	9128
	bbls.	..	....
China clay	cks	72	1391
Cottonseed	bags	.	3230
Meal	bgs.	..	11897
Cake	bgs.	440	21281
Soap Stock	bbls.	..	....
Flaxseed	bush.	..	1713
Grease	pkgs	937	9091
High Wines	bbls.	995	13366
Lead	pigs	3327	90380
Mustard seed	bgs.	..	5443
Oil, Cottonseed	bbls.	2261	32549
Lard	bbls.	10	1642
Linseed	bbls.	..	....
Lubricating	bbls	1402	9189
Cake	bags	4651	38090
Oleo stock	pkgs.	76	3190
Pitch	bbls.	5	350
Quicksilver	flks.	..	2501
Rosin	bbls.	2338	64243
Stearine	pkgs.	26	140
Sumac	bags	2181	20908
Tallow	pgs.	515	13404
Tar	bbls.	296	4823
Turpentine, crude	bbls	..	426
Spirits	bbls.	799	10493

NEW YORK DOMESTIC RECEIPTS

For week ending March 10.

ALCOHOL—264 bbls, J A Webb & Co, Penn RR
130 bbls, F O Boyd & Co, Penn RR
ASHES—12 pgs, order, H R RR
5 pgs, order, Erie RR
40 pgs, Welch & Co, H R RR
BEESWAX—1 pg, J H Cilley & Co, str N O
1 pg, order, order N R boats
3 pgs, order, str Richmond
CLAY—72 cks, Sergeant Bros, str Port Royal
COTTONSEED CAKE—440 bgs, So Oil Co, str, New Orleans
GREASE—124 tcs Davis Oil Co, str, Richmond
22 tcs, J Cinnaman, str Richmond
112 pgs, order, N R boats
15 pgs, order, Penn RR
12 pgs, Snyder & McC, D L & W RR
180 pgs, Davis Oil Co, B & O RR
25 pgs, order, Erie RR
86 pgs, order, H R RR
23 pgs, order, N Y, W S & B RR
11 pgs, order, D L & W RR
58 pgs, H W Calef, Penn RR
75 pgs, Welch, H & C, N R boats
20 pgs, Davis Oil Co, Penn RR
100 pgs, Welch, H & C, Penn RR
34 pgs, order, str Richmond
40 pgs, A W Harris, Balt In
HIGHWINES—195 bbls, G W Kidd & Co, Penn RR
130 bbls, F O Boyd & Co, Penn RR
130 bbls, J L Hastrouck, D L & W RR
65 bbls, Ross & K, Penn RR
65 bbls, T B Kerr, Penn RR
195 bbls, J Griffith & Co, Penn RR
150 bbls, Cook & B, Penn RR
65 bbls, J A Webb, Penn RR
LEAD—300 pigs, J Wahl & Co, str Richmond
2027 pigs, order, H R RR
1000 pigs, N Corwith & Co, str Richmond
OIL COTTONSEED—300 bbls, Am Oil Co, str, Galveston
280 bbls, So Oil Co, str, New Orleans
100 bbls, B W Hope, str, Richmond
12 bbls, order, N R boats
50 bbls, order, str, New Orleans
145 bbls, Simmonds & G, str, Fernandina
490 bbls, So Oil Co, str, Savannah
360 bbls, Hopkins, D & Co, str, Savannah
100 bbls, Am Oil Co, str, Savannah
154 bbls, So Oil Co, str, Charleston
50 bbls, E L Johnson & Co, str, Charleston
150 bbls, So Oil Co, str, Richmond
bbls, Ky Ref Co, str, Richmond
100 bbls, Am Oil Co, str, Richmond
FISH—54 bbls, R G Solomon, str, Richmond
LARD—10 bbls, Armour & Co, H R R R
LUB—80 bbls, Dorris & Co, D L & W R R
1066 bbls, order, Erie R R
75 bbls, O F Waring, Penn R R
121 bbls, W D Hefferley, C R R of N J
60 bbls, Morse F & Co, D L & W R R
CAKE—400 bgs, Macy & Co, H R R R
588 bgs, A B Gibbs, H R R, R
356 bgs, I & C Moore & Co, Penn R R
400 bgs, Simmonds & G, D L & W R R
110 bgs, various, Erie R R
500 bgs, Simmonds & G, L V R R
400 bgs, order, L V R R
1512 bgs, Simmonds & Co, H R R R
585 bgs, J W Nightingale, Erie R R
OLEO STOCK—76 pkgs, order, Penn R R
PITCH—5 bbls, forward, str, Wilmington
ROSIN—98 bbls, Tolar & H, str, Richmond
122 bbls, Paterson, D & Co, str, Richmond
17 bbls, H E Hueston & Co, str, Richmond
500 bbls, M W Larendon, str, Brunswick
100 bbls, forward, str, Savannah
144 bbls, F W Blossom, str, Savannah
1000 bbls, Paterson, D & Co, str, Charleston
110 bbls, Dutton & W, str, Savannah
40 bbls, J Turton's Sons, str, Savannah
150 bbls, Welch, H & C, str, Savannah
57 bbls, Fenner & Co, str, Richmond
STARCH—1900 pgs, order, H R RR
STEARINE—28 pgs, H W Calef, Penn RR
SUMAC—1971 bgs, G Campbell & Co, str, Rich'd
210 bgs, N Y S Ext Co, str, Richmond
TALLOW—89 pgs, order, N R boats
28 pgs, order, Erie RR
5 pgs, Welch, H & C, H R RR
18 pgs, order, Penn RR
19 pgs, E S Kuh & T, N Y, W S & B RR
11 pgs, order, C RR of N J
12 pgs, G Vandenhove, N R boats
25 pgs, H W Calef, N R boats
10 pgs, A Churchman, N R boats
84 pgs, order, H R RR
45 pgs, Colgate & Co, Penn RR
32 pgs, P H Van Iderstine, C RR of N J
52 pgs, H W Calef, C RR of N J
20 pgs, order, str, Charleston
3 pgs, Colgate & Co, L V RR
2 pgs, order, N Y, W S & B RR
25 pgs, Swan & T, Penn RR
9 pgs, B T Babbitt, Penn RR
2 pgs, order, D, L & W RR
2 pgs, order, C RR of N J
11 pgs, B T Babbitt, C RR of N J
11 pgs, D S Brown, L V RR
TAR—5 bbls, forward, str, Wilmington
100 bbls, Paterson, D & Co, str, Wilmington
100 bbls, J A Casey, str, Wilmington
25 bbls, Z Mills, str, Charleston
66 bbls, Z Mills, str, Richmond
TURPENTINE SPIRITS—130 bbls, forward, str, Wilmington
23 bbls, Tolar & H, str, Wilmington
100 bbls, Paterson, D & Co. str, Wilmington
29 bbls, order, str, Wilmington
34 bbls, G W Bailey & Co, str, Richmond
9 bbls, Tolar & H, str, Richmond
389 bbls, Paterson, D & Co, str, Brunswick
45 bbls, forward, str, Savannah
40 bbls, Dutton & W, str, Savannah

WILMINGTON DOMESTIC RECEIPTS

Week ending March 9.

ROSIN—3041 bbls, inland
TAR—1697 bbls, inland
TURPENTINE SP—346 cks, inland
CRUDE—434 bbls, inland

NEW ORLEANS DOMESTIC RECEIPTS.

For the week ending Mar. 8

ALCOHOL—50 bbls, Ill C RR
15 bbls, L & N RR
BONES—1 car, S P RR
CANDLES—2 bxs, St Louis
200 bxs, N O & N E RR
CEMENT—26 bbls, Cincinnati
CLAY—100 bbls, Salt Bayou
COTTONSEED—4102 sks, Shreveport
1924 sks, Bayou Sara
2 cars, 3 sks, T & P RR
1686 sks, Port Jefferson
2476 sks, Jackson Ferry
5833 sks, Washington
486 sks, Camden
20926 sks, Greenville
2 cars, I C RR
1 car, L, N O & T RR
490 sks, Monroe
ASHES—1 car, S P RR
HULLS—4 cars, L, N O & T RR
MEAL—11 cars, L, N O & T RR
GLUCOSE—1 car, N O & N E RR
80 bbls, L, N O & T RR
50 bbls, Ill C RR
GREASE—1 car, L & N RR
LUB—300 cs, L, N O & T RR
GUANO—321 sks, T & P RR
LEAD—44 pigs, St Louis
WHITE—144 kgs, St Louis
OIL—61 bbls, 2 hf bbls, St Louis
150 bbls, 59 cars, S P RR
500 bbls, T & P RR
1 car, 216 bbls, L, N O & T RR
11 cars, N O & N E RR
COTTONSEED—111 bbls, L, N O & T RR
CAKE—16 cars, L, N O & T RR
4582 sks, Greenville
ROSIN—15 cars, N O & N E RR
SOAP—17 bxs, St Louis
STARCH—2425 bxs, Cincinnati
TALLOW—3 bbls, S P RR
2 bbls, St Louis
1 bbl, Monroe

BOSTON DOMESTIC RECEIPTS

Week ending March 9.

CLAY—24 cks, str Savannah
GREASE—103 bbls, B & O RR
39 bbls, Fitchburg RR
41 bbls, 3 hbds, B & M RR
85 bbls, 36 cks, by sea
2 bbls, N Y & N E RR
ROSIN—186 bbls, str Savannah
TALLOW—68 bbls, B & H RR
85 bbls, Old Colony RR
1 pkg, N Y & N E RR
47 bbls, 12 pkgs, 2 hbds, B & M RR
11 bbls, Fitchburg RR
TURPENTINE SPIRIT—25 bbls, str Savannah

CHARLESTON DOMESTIC RECEIPTS

For week ending March 9.

CLAY—180 cks, S C RR
COTTONSEED MEAL—3 cars, C & S RR
ROSIN—1083 bbls, N E RR
978 bbls, S C RR
TURPENTINE SP—42 cks, N E RR
19 cks, S C RR

EXPORTS FROM NEW YORK FOR THE WEEK ENDING MAR. 12.

ACID

22 cbys $88 Thos Brooks, St Jago
15 cbys $33 Santiago, St Jago
1 cby $2 Alene, Hayti
7 cbys $45 Manhattan, Mexico
1 cby $3 C of Washington, Mexico
1 cby $2 C of Para, Colon
3 cs $12 Colon, Colon
2 cs $4 Barracouta, St Kitts

ACID CARBOLIC

1 cs $22 C of Para, Colon

ACID MURIATIC

6 cbys $18 Thos Brooks, St Jago
3 cbys $5 C of Para, Colon
1 cby $1 Ayrshire, St Kitts
50 cbys $163 Ocean Prince, Havana
25 cbys $78 Bengar, Matanzas

ACID NITRIC

3 cbys $23 Saratoga, Havana

ACID SULPHURIC

2 cbys $13 Santiago, Nassau
4 cbys $18 Ayrshire, Barbadoes
3 cbys $14 Ayrshire, Pt Spain
8 cbys $38 Hondo, Belize
25 cbys $76 Bengar, Matanzas

ACID OXALIC

4 cbys $5 Saratoga, Havana

ACID TARTARIC

5 cbys $24 Saratoga, Havana

ALCOHOL WOOD

2918 gls $2147 E Monarch, London
3903 gls $2850 Britannia, Glasgow

ANISEED

9 bgs $186 Colon, Colon

BARK EXTRACT

1800 lbs $1440 Leerdam, Rotterdam
60000 lbs $4800 Sorrento, Hamburg

BEESWAX

201 lbs $53 C of Para, Colon

BENZINE

50 gls $9 E L Pettingill, Valparaiso

BRIMSTONE

30 bbls $186 Ayrshire, Windward Islands
5 bbls $32 Geo Lamb, Pto Rico
15 bbls $99 F B Tucker, Ponce

CANDLES

5 cs $50 Alert, Hayti
40 bxs $187 C of Para, Colon
1 box $4 Trinidad, Hamilton
25 bxs $325 Ayrshire, Barbadoes
37 bxs $67 Ayrshire, St Lucia
36 bxs $56 Hondo, Belize
96 bxs $22 Hondo, Livingston
10 bxs $14 Hondo, Cape Gracios
40 bxs $35 J A Stubbs, Granada
2 cs $20 Alene, Hayti
45 cs $472 Victoria, Georgetown
900 cs, 1389 F B Tucker, Ponce
1 cs $10 T W Holder, Pt au Prince
19 cs $34 Caracas, Curacao
185 cs $814 Maranheuse, Para
109 bxs $60 Geo W Lochner, Nassau
36 bxs $330 Colon, Colon
5 bxs $9 Barracouta, Montserrat
10 bxs $16 Barracouta, Windward Islands

CARBON

50 bbls $300 Rugia, Hamburg
50 bbls $300 Westerniand, Antwerp

CEMENT

6 bbls $15 City of Washington, Mexico
10 bbls $13 Hondo, Greytown
3 bbls $6 Ayrshire, Pt Spain
10 bbls $19 T W Holder, Pt au Prince
25 bbls $50 Amsterdam, Amsterdam

COTTONSEED

4 bbls $35 Germanic, Liverpool
172480 lbs $1700 Ptolemy, Liverpool

COTTONSEED CAKE

8840 lbs $177 Umbria, Liverpool
400 lbs $5 City of Para, Colon

COTTONSEED MEAL

100000 lbs $1150 B City, Bristol

COTTONSEED STEARINE

38080 lbs $2600 Normandie, Havre
185969 lbs $12560 Amsterdam, Amsterdam

DYEWOOD EXTRACT

1800 lbs $144 Gellert, Hamburg
49416 lbs $2808 Leerdam, Rotterdam
7000 lbs $315 City of Berlin, Liverpool
11220 lbs $610 Wisconsin, Liverpool

FISH GUANO

30 bbls $85 Trinidad, Hamilton

FLAVINE

1000 lbs $950 Normandie, Havre

GLASS WINDOW

6 cs $34 City of Para, Colon
6 cs $15 Trinidad, Hamilton

GLUE

3 bbls $80 Santiago, St Jago
2 bbls $85 Mexico, Havana
111 lbs $24 Valparaiso, La Guayra
1 bbl $36 Maranheuse, Para
1 bl $20 Republic, Liverpool

GLUCOSE

22382 lbs $675 Republic, Liverpool

GRAPE SUGAR

92000 lbs $4850 C Lafite, Bordeaux

GREASE

45924 lbs $1963 City of Washington, Mexico
2100 lbs $83 City of Para, Colon
3347 lbs $87 Portia, Halifax
707 lbs $25 Mexico, Vera Cruz
35000 lbs $3000 Normandie, Havre
15539 lbs $559 Wisconsin, Liverpool
10411 lbs $425 Egypt, Liverpool

GUANO

100 bbls $600 Barracouta, Guadaloupe

HEMLOCK EXTRACT

28560 lbs $714 B City, Bristol

LIME ACETATE

58471 lbs $1482 E Monarch, London

LOGWOOD CHIPS

3036 lbs $80 L M Vigus, Buenos Ayres

LOGWOOD EXTRACT

1634 lbs $230 Powhatan, Lisbon
600 lbs $60 L M Vigas, Buenos Ayres
5099 lbs $415 Leerdam, Rotterdam
53604 lbs $4582 Rugia, Hamburg
3350 lbs $220 Manhattan, Mexico

LUBRICATING GREASE

2518 lbs $111 Thos Brooks, St Jago
5225 lbs $192 Santiago, St Jago
1960 lbs $80 C of Para Colon
4 cs $8 C of Para, Colon
144 lbs $5 Hondo, Belize
376 lbs $10 C of Berlin, Liverpool
1034 lbs $23 Saratoga, Havana
4 cs $12 C Castle, Melbourne
30 cs $90 M McMaster, Sydney

MATCHES

1 cs $6 Santiago, Nassau
14 cs $132 C of Para, Colon
2 cs $10 Hondo, Cape Gracios
6 cs $74 Alene, Hayti
4 cs $52 Curacoa, Curacoa
22 cs $195 A Bradshaw, Pt au Prince
68 cs $492 Geo W Lochner, Nassau
56 cs $99 Barracouta, Montserrat

OCHER

10 bbls $42 Thornhill, Progreso

OIL ALMOND

1 cs $4 City of Washington, Mexico
2 cs $37 Andes, Cartagena

OIL ANISE

66 lbs $116 Mexico, Havana

OIL CAKE

448612 lbs $5084 Hogarth, London
100825 lbs $6012 Columbia, Bristol
234671 lbs $3168 Mississippi, Cardiff
1107393 lbs 13730 E Monarch, London
721905 lbs $8969 Santiago, Hull
747524 lbs $8350 Ptolemy, Liverpool
1389 5 lbs $1823 Rhyniand, Antwerp
338013 lbs $3400 B City, Bristol
339422 lbs $4641 Britannia, Glasgow
130000 lbs $1500 Egypt, Liverpool
470751 lbs $6221 Mississippi, Avon

OIL CASTOR

30 gls $30 C of Para, Colon

OIL CODLIVER

6 cs $22 C of Washington, Mexico
1 cs $4 C of Para, Colon
5 cs $64 Geo Lamb, Pto Rico
1 cs $6 Alene, Hayti
6 cs $24 Mexico, Vera Cruz
2 cs $2 T W Holder, Pt au Prince
12 cs $348 Manhattan, Mexico
1 cs $10 A Bradshaw, Pt au Prince
15 cs $675 Finance, Brazil

7 cs $312 Colon, Colon
12 cs $189 Thornhill, Progreso

OIL COTTONSEED

150 gls $108 Hogarth, London
100 gls $72 Hogarth, Cape Town
480 gls $206 Ayrshire, Barbadoes
40 gls $31 Ayrshire, St Lucia
46 gls $28 Hondo, Belize
70 gls $46 Hondo, Cape Gracios
24710 gls $18000 Alesia, Marseilles
5400 gls $2300 Leerdam, Rotterdam
1233 gls $550 Rhyniand, Antwerp
2400 gls $1100 Rugia, Hamburg
806 gls $578 E L Pettingill, Valparaiso
10 gls $4 Barracouta, Montserrat
10 gls $4 Barracouta, Barbadoes
872 gls $385 Barracouta, Windward Islands
2550 gls $1050 Egypt, Liverpool

OIL CURRYING

12597 gls $3534 E Monarch, London

OIL ESSENTIAL

5 cs $600 Fulda, Bremen
2 cs $360 Normandie, Havre

OIL LARD

2988 gls $1952 J Harvey, Cape Town
1370 gls $896 C of Para, Colon
50 gls $32 Ayrshire, Windward Islands
53 gls $31 Ayrshire, St Lucia
50 gls $35 J A Stubbs, Granada
1250 gls $5 0 Champagne, Havre
500 gls $350 E L Pettingill, Valparaiso
480 gls $327 C Castle, Melbourne
240 gls $163 M McMaster, Sydney
256 gls $160 Barracouta, Grenada
2504 gls $1578 Trave, Bremen
2924 gls $2131 Our Annie, East London
1266 gls $650 Egypt, Liverpool

OIL LINSEED

34 gls $20 Thos Brooks, St Jago
52 gls $30 Alert, Hayti
897 gls $264 C of Para, Colon
120 gls $78 Alene, Hayti
50 gls $38 St Pierre, St Pierre
50 gls $30 Mexico, Havana
150 gls $104 T W Holden, Pt au Prince
203 gls $118 Geo W Lochner, Nassau
285 gls $194 Colon, Colon
666 gls $470 Thornhill, Progreso
100 gls $44 Barracouta, Pt Spain

OIL LUBRICATING

150 gls $50 Barracouta, Pt Spain
101 gls $53 Catania, Rio
401 gls $94 Santiago, St Jago
1072 gls $145 City of Washington, Mexico
26134 gls $4274 Gellert, Hamburg
2876 gls $986 City of Para, Colon
705 gls $125 Ayrshire, Windward Islands
51 gls $51 Ayrshire, Pt Spain
10 gls $7 Hondo, Belize
1800 gls $1200 Egypt, Liverpool
3871 gls $540 Champagne, Havre
6300 gls $3863 L M Vigus, Buenos Ayres
10 gls $8 Alene, Hayti
350 gls $40 Portia, Halifax
38950 gls $7850 Leerdam, Rotterdam
58417 gls $12187 City of Berlin, Liverpool
68900 gls $11500 E Monarch, London
1053 gls $545 Mexico, Vera Cruz
45450 gls $6422 Rhyniand, Antwerp
80 gls $19 Saratoga, Havana
12768 gls $1180 Rugia, Hamburg
4150 gls $1830 E L Pettengill, Valparaiso
1500 gls $700 Manhattan, Mexico
250 gls $50 Normandie, Havre
201 gls $35 Wisconsin, Liverpool
32900 gls $6200 Britannia, Glasgow
750 gls $167 Maranheuse, Para
767 gls $442 Finance, Brazil
1000 gls $500 Peerless, Santos
7627 gls $785 Sorrento, Hamburg
1200 gls $300 Colorado, Hull
348 gls $70 Colon, Colon
2676 gls $1605 Nevada, L'pool
250 gls $175 Bengar, Matanzas
538 gls $458 Trave, Bremen
116373 gls $17857 Egypt, L'pool

OIL MEAL

100 lbs $2 City of Para, Colon
8500 lbs $131 Ayrshire, St Kitts
5911 lbs $81 J A Stubbs, Grenada
106250 lbs $1800 America, Bridgetown
10175 lbs $158 Barracouta, Montserrat
1250 lbs $19 Barracouta, St Kitts
51 lbs $3 Barracouta, Barbadoes
9487 lbs $56 Barracouta, Windward Islands

OIL NEATSFOOT

508 gls $300 Gellert, Hamburg
2400 gls $1500 Egypt, L'pool

OIL OLEO

158929 lbs $14498 Gellert, Hamburg
282311 lbs $27120 Leerdam, Rotterdam
35000 lbs $2900 Rhyniand, Antwerp
33000 lbs $2800 Rugia, Hamburg

OIL OLIVE

100 gls $69 C Castle, Melbourne

OIL WHALE

62 gls $30 Alps, Kingston

PAINTS

5 cs $40 Pearl, San Blas
1 bbl $12 Thos Brooks, St Jago
24 pgs $76 Alert, Hayti
12 pgs $69 Santiago, St Jago
1 cs $6 City of Washington, Mexico
26 pgs $308 City of Para, Colon
2 pgs $150 Ayrshire, Barbadoes
3 pgs $9 Ayrshire, Pt Spain
5 pgs $67 Hondo, Cape Gracios
4 pgs $36 L M Vigus, Buenos Ayres
109 pgs $147 Alene, Hayti
3 cs $67 St Pierre, St Pierre
9 bbls $316 Leerdam, Rotterdam
1 cs $16 Mexico, Havana
91 pgs $1180 Santiago, Hull
9 pgs 161 Saratoga, Havana
12 cs $99 E L Pettengill, Valparaiso
8 pgs $71 Manhattan, Mexico
13 pgs $71 G W Lochner, Nassau
2 pgs $128 M McMaster, Sydney
9 pgs $246 Colon, Colon
5 pgs $100 Thornhill, Progreso

PARAFFINE WAX

200 lbs $16 J Harvey, Capetown
586635 lbs $29331 Montauk, Leith
4100 lbs $451 City of Washington, Mexico
53872 lbs $2581 Hogarth, London
446 8 lbs $2200 Columbia, Bristol
44777 lbs $3000 City of Berlin, Liverpool
1356 lbs $108 E Monarch, London

PEPPER

5 bgs $91 Maranheuse, Para
20 bgs $325 Catania, Rio
7 bgs $129 Alert, Hayti
8 bgs $184 Santiago, St Jago
5 bgs $96 Geo Lamb, Porto Rico
6 bgs $124 Alene, Hayti
25 bgs $371 F B Tucker, Ponce
28 bgs $529 Maranheuse, Para

POTASH

10 pgs 10 cks $443 L M Vigus, Buenos Ayres
30 bbls $822 Normandie, Havre

PITCH

50 bbls $70 E L Pettingill, Valparaiso
1 bbl $1 Caracas, Curacoa
10 bbls $15 Maranheuse, Para
10 bbls $15 Saratoga, Havana
1 bbl $1 Alert, Hayti
30 bbls $41 C of Para, Colon
5 bbls $7 Trinidad, Hamilton
6 bbls $10 Ayrshire, Pt Spain
2 bbls $3 Hondo, Belize
4 bbls $5 J A Stubbs, Grenada
1 bbl $3 Alene, Hayti
2 bbls $3 St Pierre, St Pierre
1 bbl $3 G W Lochner, Nassau
2 bbls $3 Barracouta, Grenada
10 bbls $14 Barracouta, Barbadoes

ROSIN

100 bbls $260 Powhatan, Lisbon
30 bbls $78 Santiago, St Jago
175 bbls $350 Gellert, Hamburg
151 bbls $473 Hogarth, London
80 bbls $211 C of Para, Colon
3 bbls $6 Ayrshire, Pt Spain
120 bbls $225 Concezione, Oporto
146 bbls $240 Imes, Bahia
2 bbls $3 Alene, Hayti
6 bbls $17 Portia, Halifax
998 bbls $1730 Britannia, Glasgow
304 bbls $550 Assar, Pelotas
1 bbl $2 Caracas, Curacoa
600 bbls $1312 C Castle, Melbourne
30 bbls $68 Peerless, Santos
500 bbls $875 Sorrento, Hamburg
211 bbls $475 G M Stanwood, Pernambuco
100 bbls $257 M McMaster, Sydney
4 bbls $8 Colon, Colon

SARSAPARILLA

946 lbs $120 L M Vigus, Buenos Ayres

SOAP

550 bxs $1438 E Monarch, London
1 cs $133 Thos Brooks, St Jago
100 bxs $163 J Harvey, Cape Town
12 bxs $115 Catania, Rio
600 bxs $298 Alert, Hayti
50 bxs $32 Santiago, St Jago
10 bxs $37 C of Washington, Mexico
1702 bxs $2682 C of Para, Colon
21 bxs $111 Trinidad, Hamilton
30 bxs $51 Hondo, Belize
9 bxs $77 Hondo, Greytown
3 bxs $15 Geo Lamb, Porto Rico
200 bxs $118 J T Matheson, Jacmel
8 bxs $65 L M Vigus, Buenos Ayres
4951 bxs $2824 Alene, Hayti
1 bx $9 Victoria, Georgetown
1 bx $37 Portia, Halifax
25 bxs $165 Portia, St Johns
35 kgs $60 Santiago, Hull
1 cs $8 Rugia, Hamburg
250 bxs $397 T W Holder, Pt au Prince
4 bxs $24 Caracas, Curacao
1 bx $4 Manhattan, Mexico
1 cs $92 Andes, Cartagena
4702 bxs $2814 A Bradshaw, Pt au Prince
980 bxs $1101 Maranheuse, Para
247 bxs $687 G W Lockner, Nassau
165 bxs $553 Colon, Colon
200 bxs, $325 Our Annie, East London

SODA CAUSTIC

8 dms $57 C of Washington, Mexico

STARCH

1 cs $4 E L Pettingill, Valparaiso
150 bbls $1074 Wisconsin, Liverpool
1 bbl $15 Santiago, St Jago
30 bxs $140 C of Para, Colon
3 bxs $6 Trinidad, Hamilton
4 bxs $8 Ayrshire, Barbadoes
5 bxs $8 Ayrshire, Antigua
72 cs $124 G W Lockner, Nassau
5 cs $31 Barracouta, Montserrat

STEARINE

50 lbs $7 J Harvey, Capetown
47660 lbs $1785 C of Washington, Mexico
11539 lbs $912 C of Para, Colon
1197 lbs $384 E Monarch, London
5000 lbs $416 Colon, Colon
4451 lbs $344 Thornhill, Progreso

SPERMACETI

3060 lbs $1006 C of Berlin, Liverpool

SPONGE

430 lbs $197 L M Vigus, Buenos Ayres
380 lbs $140 Leerdam, Rotterdam

TALLOW

58163 lbs $3123 C of Washington, Mexico
25442 lbs $1510 C of Para, Colon
500 lbs $38 Ayrshire, Windward Islands
63 lbs $5 Ayrshire, Barbadoes
2000 lbs $143 Ayrshire, Montserrat
23459 lbs $1156 Egypt, Liverpool
1200 lbs $60 Champagne, Havre
24530 lbs $9782 Leerdam, Rotterdam
32996 lbs $1378 Ptolemy, Liverpool
33140 lbs $1429 Lasseli, Liverpool
23639 lbs $1458 Mexico, Vera Cruz
766 lbs $42 Curacoa, Curacao
42703 lbs $2295 Manhattan, Mexico
428 lbs $36 G W Lochner, Nassau
1376 lbs $90 Colon, Colon
207593 lbs $10300 Egypt, Liverpool

TAR

4 bbls $13 Pearl, San Blas
3 cs $5 Santiago, St Jago
2 bbls $5 Ayrshire, St Lucia
5 bbls $16 Hondo, Cape Gracios
5 bbls Vertumnus, Kingston
4 bbls, $9 J A Stubbs, Grenada
20 bbls $79 Alene, Hayti
15 pgs $38 St Pierre, St Pierre
20 bbls $40 Portia, Halifax
10 cs $17 Mexico, Havana
43 bbls $117 Saratoga, Havana
1 bbl $3 Caracas, Curacao
25 bbls $106 Manhattan, Mexico
10 bbls $23 Barracouta, Barbadoes

TURPENTINE

294 gls $122 T Brooks, St Jago
476 gls $195 J Harvey, Cape Town
1000 gls $455 Catania, Rio
10 gls $5 Alert, Hayti
20 gls $9 Santiago, St Jago
374 gls $220 City of Para, Colon
48 gls $21 Trinidad, Hamilton
50 gls $21 Ayrshire, Windward Islands
10 gls $5 Ayrshire, Montserrat
143 gls $64 Ayrshire, Pt Spain
250 gls $116 G W Lamb, Porto Rico
55 gls $24 J A Stubbs, Grenada
1000 gls $443 L M Vigus, Buenos Ayres
10 gls $5 Alene, Hayti
43 gls $19 Victoria, Georgetown
1166 gls $470 Portia, Halifax
2689 gls $1213 Saratoga, Havana
3798 gls $1615 E L Pettengill, Valparaiso
500 gls $225 Peerless, Santos
480 gls $197 M McMaster, Sydney
160 gls $88 Colon, Colon
1170 gls $544 Our Annie, East London
450 gls $194 Bengar, Matanzas

VARNISH

24 gls $25 T Brooks, St Jago
30 gls $19 Santiago, St Jago
16 gls $28 City of Washington, Mexico
150 gls $169 City of Para, Colon
10 gls $9 Ayrshire, Windward Islands
8 gls $10 Hertha Buenos Ayres
20 gls $20 Geo Lamb, Porto Rico
540 gls $482 L M Vigus, Buenos Ayres
7 gls $9 Alene, Hayti
30 gls $27 Victoria, Georgetown
34 gls $60 Portia, St Johns
10 gls $14 Mexico, Havana
30 gls $33 Mexico, Vera Cruz
466 gls $391 Saratoga, Havana
60 gls $85 Valparaiso, La Guayra
318 gls $329 E L Pettingill, Valparaiso
10 gls $3 T W Holder, Pt au Prince
220 gls $202 Manhattan, Mexico
26 gls $13 A Bradshaw, Pt au Prince
15 gls $14 Maranheuse, Para
185 gls $759 Finance, Brazil
25 gls $91 M McMaster, Sydney
130 gls $120 Thornhill, Progreso
42 gls $73 Barracouta, Pt Spain
6 gls $12 Barracouta, Barbadoes
70 gls $72 Our Annie, East London

VASELINE

1 cs $6 Ayrshire, Windward Islands
5 cs $190 Santiago, Hull
1 cs $3 Caracas, Curacao
1 cs $23 Colon, Colon
1 cs $11 Barracouta, Barbadoes

WHITE LEAD

50 kgs $300 City of Para, Colon

ZINC OXIDE

30 kgs $108 City of Para, Colon
30 kgs $54 Colon, Colon

New Orleans Exports.

For week ending March 8.

COTTONSEED

9500 cks, American, L'pool

OIL MEAL

7168 bgs, Nantes, Antwerp

LEAD

522 pigs, Actor, L'pool

OIL COTTONSEED

200 bbls, Nantes, Havre
200 bbls, Nantes, Antwerp

OIL CAKE

900 sks, Actor, L'pool
4620 sks, Caribbean, L'pool

SOAP

10 bxs, Prof Morse, Puerto Cortes

TALLOW

119 tcs, Nantes, Havre

Charleston Exports

Week ending March 9.

COTTONSEED

4061 sks, Hopetoun, Liverpool

ROSIN

4259 bbls, Hopetoun, Liverpool

Boston Exports

For week ending March 9.

BEESWAX

5 cs, Pavonia, Liverpool

CANDLES

36 bxs, M Louise, St Pierre

CEMENT

5 bbls, Dominion, Yarmouth

COTTONSEED MEAL

5 bgs, Mary C, Liverpool

DYESTUFFS

60 bbls, 250 bxs, Colorado, Hull

ESSENCE PEPPERMINT

33 bxs, M Louise, St Pierre

ESSENCE SPRUCE

54 bxs, M Louise, St Pierre

FLORIDA WATER

10 bxs, A Fairfax, Cape Verde Islands

GAMBIER

13 bls, M Louise, St Pierre

GAMBIER CUBE

6 pockets, M Louise, St Pierre

LOGWOOD

10 bxs, A Fairfax, Cape Verde Islands

OIL

10 bbls, 2 hf bbls, Mary C, Liverpool

OIL CASTOR

1 cs, A Fairfax, Cape Verde Islands

OIL COD

1 cs, A Fairfax, Cape Verde Islands

OIL LINSEED

6 cs, A Fairfax, Cape Verde Islands

OIL CAKE

380 sks, Pavonia, Liverpool
376 sks, Palestine, Liverpool

PAINT

7 cs, A Fairfax, Cape Verde Islands
270 cs, Colorado, Hull
15 cs, Palestine, L'pool

PAINT, COPPER

26 cs, 1 bbl, M Louise, St Pierre

PITCH

10 bbls, Dominion, Yarmouth
13 bbls, M Louise, St Pierre

SARSAPARILLA

5 cs, A Fairfax, Cape Verde Islands

SOAP

1 cs, A Fairfax, Cape Verde Islands

TALLOW

34 hhds, Palestine, L'pool

TAR

17 bbls, M Louise, St Pierre
1 bbl, various, Lockport

TURPENTINE

6 cs, A Fairfax, Cape Verde Islands

San Francisco Exports.

Week ending Feb. 27.

ACID

1 tnk, Granada, Central America

ALCOHOL

1 cs, Granada, Mexico

BONE MEAL

600 lbs, Mexico, Victoria
20000 lbs, Caibarien, Honolulu

CANDLES

35 bxs, Granada, Mexico

GINSENG

7230½ lbs, Belgic, China

GREASE, LUBRICATING

13 pgs, Mexico, Victoria
5 pgs, Granada, Central America

OIL COAL

213 cs, Granada, Cent Am
15 cs, Granada, Mexico

OIL LARD

505 gls, Caibarien, Honolulu
60 gls, Granada, Cent Am

OIL MACHINE

5 cs, 40 gls, Granada, Cent Am

OIL OLIVE

1 cs, Belgic, China

OIL VARIOUS

1 pkg, Mexico, Victoria
1 pkg, Planter, Honolulu
15 pgs, Granada, Cent Am
3 pgs, Granada, Mexico

PAINT

5 pgs, Mexico, Victoria
2 pgs, Caibarien, Honolulu
2 pgs, Granada, Cent Am
1 pkg, Granada, Mexico

PITCH

2 bbls, Mexico, Victoria

SOAP

1 bx, Belgic, China
22 bxs, Belgic, Japan
4 bxs, Granada, Cent Am

SODA

1253 lbs, Mexico, Victoria

SPICES

pgs, Mexico, Victoria

STARCH

43 bxs, Mexico, Victoria

TALLOW

41363 lbs, Granada, Cent Am

TAR

6 bbls, Mexico, Victoria
5 bbls, Planter, Honolulu

TURPENTINE

90 gls, Mexico, Victoria
10 cs, Granada, Cent Am

WHITE LEAD

600 lbs, Granada, Cent Am

Philadelphia Exports.

From March 3 to March 9, inclusive.

EXTRACT

175 bbls, Lord Gough, L'pool

OIL LUBRICATING

1035 bbls, Lord Gough, L'pool

TALLOW

197 cks, Lord Gough, L'pool

Baltimore Exports.

For week ending March 8.

BARK

288 bgs, Hermann, Bremen

BARK EXTRACT

1818 bxs, Hermann, Bremen

OIL COD

5000 gls, J A Garfield, Demerara

OIL CAKE

1090 sks, Minnesota, London
5206 sks, Lord O'Neill, Bristol

OLEO STOCK

152200 lbs, Sarnia, Liverpool

POTASH

2 cs, Hermann, Bremen

ROSIN

425 bbls, Sarnia, Liverpool
200 bbls, L Ehrman, Pernambuco
225 bbls, Catania, Rio Janeiro

SASSAFRAS ROOT

7 bls, Hermann, Bremen

Departure of Steamers.

FROM NEW YORK.

Steamers.	Sails.	Destinatio
Britannic	Mch 14	Liverpool
Lahn	Mch 14	Bremen
State of Pennsylvania	Mch 15	Glasgow
Bohemia	Mch 15	Hamburg
La Gascogne	Mch 17	Havre
Etruria	Mch 17	Liverpool
Penniand	Mch 17	Antwerp
Edam	Mch 17	Amsterdam
Werra	Mch 17	Bremen
City of Chicago	Mch 17	Liverpool
Furnessia	Mch 17	Glasgow
Alaska	Mch 20	Liverpool
Celtic	Mch 21	Liverpool
Aller	Mch 21	Bremen
The Queen	Mch 21	Liverpool
State of Georgia	Mch 23	Glasgow
Rhaetia	Mch 23	Hamburg
Rider	Mch 24	Bremen
Servia	Mch 24	Liverpool
City of Richmond	Mch 24	Liverpool
Belgenland	Mch 24	Antwerp
La Bourgogne	Mch 24	Havre
Ethiopia	Mch 24	Glasgow
Zaandam	Mch 24	Rotterdam
Wyoming	Mch 27	Liverpool
Saale	Mch 28	Bremen
Germanic	Mch 28	Liverpool
Bothnia	Mch 28	Liverpool
Spain	Mch 28	Liverpool
Wieland	Mch 29	Hamburg
State of Nebraska	Mch 29	Glasgow
Umbria	Mch 31	Liverpool
Zealand	Mch 31	Antwerp
Arabic	Mch 31	Liverpool
Fulda	Mch 31	Bremen
La Bretagne	Mch 31	Havre
Anchoria	Mch 31	Glasgow
Pennsylvania	Mch 31	Antwerp
Ohio	Mch 31	Liverpool

FROM BOSTON.

Cephalonia	Mch 15	Liverpool
Kansas	Mch 20	Liverpool
Catalonia	Mch 22	Liverpool
Norseman	Mch 27	Liverpool
Palmyra	Mch 31	Liverpool

FROM PHILADELPHIA.

British King	Mch 14	Liverpool
Switzerland	Mch 21	Antwerp
Lord Clive	Mch 21	Liverpool
British Prince	Mch 28	Liverpool

FROM BALTIMORE.

America	Mch 14	Bremen
Marsca	Mch 15	Antwerp
Sardinian	Mch 20	Liverpool
Colina	Mch 24	Glasgow
Vancouver	Mch 27	Liverpool

FROM SAN FRANCISCO.

City of Sydney	Mch 24	Yokohama, etc
Oceanic	Apr 3	Yokohama, etc
Mariposa	Apr 5	Honolulu, etc
City of Rio Janeiro	Apr 12	Yokohama, etc
Gaelic	Apr 21	Yokohama, etc
City of New York	May 1	Yokohama, etc
Zealandia	May 3	Honolulu, etc
Belgic	May 12	Yokohama, etc
City of Peking	May 23	Yokohama, etc

Baltimore Imports.

Comparative statement of the Imports at the port of Baltimore commencing January 1st 1888 and 1887.

Articles:	This week.	Previously.	Same time '87
Agricultural salt, tons	....	2382	2422
Cement, casks	45	6262	....
Brims'ne & Sulph'r tns	...	3168	2100
Guano, tons	..	590	629
Nitrate of Soda, bgs	...	1080	18895
Spirits Turp, bbls	185	2034	2670
Rosin, bbls	1238	22.97	26302
Tar, bbls	182	1358	1432

Baltimore Exports.

Principal articles exported from Baltimore to foreign countries since 1st of January, 1888, and compared with same time 1887.

	This week	Previously.	Same time '87
Bark Quercitron bgs	288	2402	6665
Spirits Turpentine, gals	....	....	1000
Rosin, bbls	850	19042	4572
Oil Cake, pkgs	1090	27692	51289
Petroleum, gls	....	930294	1595139
Tallow, lbs	155200	3302943	1736325

TOTAL PACKAGES AND VALUES OF IMPORTS.

As returned by the Custom House for the week ending March 9, 1888:—

	Quantity	Value
Glass, plate	108	$9373
Glass, window	19350	24317
Looking glass plate	165	28799
Acid, arsenic	1	34
Acid, oxalic	50	2299
Acid, all other	176	7126
Aniline colors	318	18255
Aniline salt	30	1195
Ammonia, muriate of	116	4566
Ammonia, sal	40	3200
Argols	103	14487
Albumen	69	1838
Alizarine	150	9729
Balsam copaiba	38	1396
Bark, cinchona	168	6401
Bark, other	2	73
Barytes, sulphate	....	1173
Barytes, other	....	882
Bay rum	184	2 96
Bleaching powder	381	6253
Brimstone	..	3320
Bronze powder	....	8690
Borax	674	3720
Buchu leaves	2	46
Butter, cocoa	71	3893
Chalk	...	864
Chemical salts	118	1873
Cochineal	50	2600
Colocynth	5	90
Cutch	600	4832
Cuttlefish bone	9	14
Dextrine	510	2860
Divi divi	765	1198
Dyewood extract	100	4336
Fish sounds	19	934
Flowers, chamomile	30	686
Flowers, insect	120	19356
Flowers, lavender	50	195
Flowers, saffron	24	124
Fullers earth	195	140
Gambier	9780	106727
Gelatine	81	4924
Glycerine	216	10475
Gum arabic	51	5235
Gum aloes	1	39
Gum copal	1678	21939
Gum camphor	450	8073
Gum damar	1	11
Gum kauri	3829	83356
Gum, licorice	183	8249
Gum shellac	520	11804
Gum substitute	28	2259
Gum, other	6	94
Glue	470	6201
Insect powder	100	6049
Indigo auxiliary	30	1623
Iodine	17	4989
Isinglass	25	1255
Juniper berries	25	54
Laurel leaves	5	27
Manna	10	311
Manganese	7	108
Madder	8	435
Manuring salt	....	27715
Archil weed	28	805
Oil, almonds	1	105
Oil, aniseed	31	3503
Oil camphor	100	167
Oil, caraway	15	853
Oil, cinnamon	1	193
Oil, citronella	50	1229
Oil, cod	135	1474
Oil, cocoanut	82	5041
Oil, juniper	2	83
Oil, lavender	4	291
Oil, laurel	6	354
Oil, lemon	71	1881
Oil, neroli	1	111
Oil, olive	1816	6441
Oil, rapeseed	20	479
Oil, rose	1	65
Oil, sandalwood	1	149
Oil, tanners'	255	1898
Oil, other essential	24	1189
Oil, all other	2	175
Opium	74	26256
Paints, unspecified	....	2449
Paints, iron oxide	98	427
Paints, ocher	175	1040
Paints, Tuscan red	10	60
Paints, white lead	15	157
Pitch	200	539
Potash, bichromate	142	10988
Potash, chlorate	70	1473
Potash, carbonate	100	3515
Potash, hydrate	25	922
Potash, prussiate	80	2783
Persian berries, extract of	10	753
Plumbago	101	217
Quinine	10	3540
Root, arrow	997	2557
Root, gentian	185	903
Roots, jalap	4	58
Root, licorice	12708	48331
Root, orris	92	2406
Roots, all other	198	2492
Saltpeter	1052	5808
Sage leaves	35	300
Soda ash	1242	19909
Soda, bicarbonate	19	958
Soda, caustic	376	3249
Soda, hypo of	30	486
Sponges	304	7777
Sumac, extract of	25	604
Sugar of milk	20	698
Talc	1100	1133
Tonka beans	4	91
Turmeric	500	786
Ultramarine	190	1341
Vanilla beans	19	5650
Varnish	5	75
Other drugs	....	10804
Dutch metal	8	2031
Cassia	11280	26047
Cloves	75	1712
Ginger	2160	5394
Nutmegs	174	5088
Pepper	218	4163
Pimento	10	89
Corkwood	....	22254
Empty barrels	....	27723
Fustic	....	1058
Logwood, M lbs	2122	21923
Brushes	....	7606
Candles	....	211
Clay	....	958
Corks	....	4095
Cocoa, preparations of	113	804
Hops	222	11200
Matches	395	2164
Musk	2	3608
Plaster	....	49
Portland cement	19284	17600
Perfumery	295	2574
Sago	218	1785
Sago flour	7240	15803
Seed, annatto	4	40
Seed, anise	50	551
Seed, canary	5	18
Seed, caraway	201	1781
Seed, castor	512	1026
Seed, coriander	155	806
Seed, millet	150	318
Seed, mustard	130	1731
Seed, rape	101	501
Linseed	7169	23258
Soap	81	6759
Soap, castile	2350	3429
Stone, pumice	....	1788
Tapioca	1145	6345
Wax	....	929
Whalebone	....	94

GOODS ON THE WAY TO THE UNITED STATES BY SAIL.

Auckland

TO NEW YORK

Star of the East, 675 tons kauri gum

Calcutta

TO NEW YORK

Record, 1214 bgs saltpeter
John W Marr, 150 cs shellac
George R Skolfield, 4484 bgs linseed, 300 cs shellac
Ardenclutha, 1081 bgs saltpeter, 10500 bgs linseed, 150 cs shellac, 102 indigo
Anglo, India, 1463 bgs saltpeter, 1124 bgs cutch
Belle of Bath, 5550 bgs linseed, 505 shellac, 95 cs indigo, 100 cs buttonlac, 250 bgs turmeric, 150 bgs nux vomica
Argonaut, 2568 bgs saltpeter, 50 cs shellac, 33 cs indigo, 150 cs buttonlac
North American, 931 bgs saltpeter, 2674 bgs cutch, 115 cs indigo, 1000 pkts turmeric
Benvenue, 1167 bgs saltpeter, 17 cs indigo
Kelat, 7000 bgs linseed, 58 cs indigo
Slieve Roe, 2169 bgs saltpeter, 74 cs indigo
Glenericht, 1153 bgs saltpeter, 40 bgs cutch, 8188 bgs linseed, 100 cs shellac, 89 cs indigo
Blair Athole, 545 bgs saltpeter, 2823 bgs cutch, 903 cs indigo, 2000 pkts turmeric

TO SAN FRANCISCO

Bhotan, 275 cs shellac

TO BOSTON

Warrior, 600 bxs cutch
Indian Empire, 200 bxs cutch

TO PHILADELPHIA

Anaurus, 24502 bgs linseed

Girgenti

TO BALTIMORE

Fratelli Doge, 900 tons brimstone
Maria Repetto, 850 tons brimstone
Stefano Repetto, 835 tons brimstone

TO PHILADELPHIA

Oliva Speciosa, 730 tons brimstone

TO WILMINGTON N C

Vittoria, 550 tons brimstone

Hong Kong

TO NEW YORK

Asia, 5815 pls cassia lignea, 40 bxs essential oil
Benj Sewall, 1050 pls cassia lignea, 135 bxs essential oils

Leghorn

TO NEW YORK

Maria Adelaide, 450 bxs white soap

TO PHILADELPHIA

Giacamo Mortola, 1100 bxs white soap

Licata

TO CHARLESTON

Sirena, 640 tons seconds brimstone

TO NEW YORK

Fortune, 330 tons thirds brimstone

Smyrna

TO NEW YORK

Gaeta, 2721 bgs licorice root, 150 tons emery stone
Oreb, 4857 bls licorice root, 179 tons emery stone
Alice, 4514 bls licorice root, 79 tons emery stone

West Coast South America

TO BOSTON

Conquest, 5000 bgs nitrate soda

TO HAMPTON ROADS

Maggie Dart, 5000 bgs nitrate soda
Iceberg, 10000 bgs nitrate soda

TO NEW YORK

Linnet, 10000 bgs nitrate soda
Amanda, 10000 bgs nitrate soda
Countess of Roth, 7000 bgs nitrate soda
Willard Mudget, 9000 bgs nitrate sod
Hampshire, 12000 bgs nitrate soda
Trinidad, 6500 bxs nitrate soda
Weser, 7000 bgs nitrate soda
Empire, 10000 bgs nitrate soda
Zulu, 8000 bgs nitrate soda

TO PHILADELPHIA

Evie J Ray, 10000 bgs nitrate of soda
Duke of Abercorn, 10000 bgs nitrate soda

RECORD OF VESSELS.

Port & Name.	Sailed	Last Reported
Auckland.		
Star of the E	Nov 20	
Calcutta.		
Record	Nov 20	
J W Marr	Nov 21	
Bhotan	Nov 13	
Warrior	Nov 18	
G R Skolfield	Dec 5	
Ardenclutha	Dec 9	
Anglo I dia	Dec 10	
Belle of Bath	Dec 22	
Ind'n Empire	Dec 13	St Helena, pr Feb 13
Anaurus	Dec 10	
Argonaut	Dec 20	
N American	Dec 27	Jan 2, spoken
Benvenue	Dec 27	
Kelat	Jan 2	
Slieve Roe	Jan 2	
Glenericht	Jan 4	
Blair Athole	Jan 9	
Girgenti.		
F Doge	Jan 21	
M Repetto	Jan 11	
O Speciosa	Jan 10	Tarifa, Jan 25
Vittoria	Jan 11	Tarifa, Feb 3
S Repetto	Jan 25	
Hong Kong.		
Asia	Dec 5	New Arbor, Dec 28
B Sew[illegible]	Dec 8	New Arbor, Dec 28
Leghorn.		
G Mo[illegible]	Jan 12	
M Adelaide	Jan 18	
Licata.		
Sirena	Jan 20	Cagliari, Feb 2
Fortune	Jan 20	
Smyrna.		
Gaeta	Dec 21	Tarifa, Jan 19
Oreb	Dec 28	Gibraltar, Jan 24
Alice	Jan 20	
West Coast.		
Er[illegible]	Oct 13	Talcahuano, Nov 26
Empire		Loading
D of Abercorn	Dec 31	
M Dart	Dec	
Cuin[illegible]	Dec 8	
Conquest		Loading
Iceberg		Loading
Linnet		Loading
Amanda	Dec	
Countess Roth		Loading
W Mudgett		Loading
Hampshire		Loading
Trinidad		Loading
Weser	Dec	

Just Published.

The Manual of Lubrication;

or, how to choose and how to use lubricants for every description of machinery, with methods of determining the purity and other properties of &c. &c., by Louis Simpson Engr price $2.00.

OIL, PAINT & DRUG PUBLISHING CO.
72 William St., New York.

This work is written by a Practical Mill Superintendent for the use and guidance of all mill men.

Artificial Formation of Organic Substances.

At a meeting of the Leeds Philosophical Society in London, a discussion took place on the "Artificial Formation of Organic Substances." Mr. W. N. Price presided. Mr. Sydney Lupton introduced the subject, dealing with general considerations; and Professor Hummel, of the Yorkshire College Dyeing Department, demonstrated the success of chemists in the production of artificial coloring matters, which equalled, and in cases outrivalled, natural dyes. Professor Smithells, of the Chemical Department, Yorkshire College, spoke on future possibilities. He said that the real wonder in these achievements had not been in the production of coloring matters, but of complex substances of mineral origin. From the chemist's standpoint, nothing important was to be expected from the researches of the color chemist, the constitution of cochineal being the only important subject to be determined. With respect to the production of artificial medicines they were trying to make quinine and certain alkaloids; but the fact was that if they made one they had made all for practical purposes. Already an alkaloid named coniine, which was analogous to the poison from the hemlock, had been prepared from mineral substances. After mentioning the accidental discovery of saccharine Mr. Smithells said that the goal of the synthetic chemist was the most complicated compounds existing in nature, among which could be reckoned starch and albumen, which was identical with the white of an egg. Starch was not far removed from sugar, and as the chemical world was rejoicing over the artificial preparation of grape sugar, they had got thus far in regard to the task before them. Starch also had a definite, organized structure; and he failed to see in starch anything more difficult than this organized structure. The old bugbear of organized structure had already given way. The result had not been to degrade it, but to dignify other structures and those forces of nature formerly looked upon as merely the essence of deadness and decay. He anticipated no difficulty about the production of starch by the chemist. Some would pursue speculation into the domain of life. Any of the complicated substances contained in protoplasm might be prepared artificially; but protoplasm, per se, did not concern the chemist. An eminent professor of botany in Germany had undertaken to show that the movement of protoplasm could be explained in the same way as that of a drop of oil suspended in water and other liquids—purely by the action of chemical forces. If that was true, the chemist had no obstacle to offer to the artificial production of living protoplasm. But was it sufficient to look upon protoplasm as merely endowed with the power of responding to its surroundings—to the action of stimulus as an insensate body? If it were something more, then the chemist would retire. That was a question with which he did not desire to struggle. The only useful conclusion that could be obtained from the examination of the question was that the powers of the human mind were finite, whereas there was something in nature which embodied the infinite. Dr. Lewcowitz admitted that coniine and glucose had been artificially prepared, but they had not the power of acting on polarized light, and this was one of the barriers which the chemist could not pass. Pasteur said that vital power was the thing wanted, and thus the old difficulty was raised.

Indian Products.

The late Colonial and Indian Exhibition appears to have led to some interest being taken in the exportation of Indian drugs of various kinds on trial. One of these articles received during the past month was a sample of white musli, the root of asparagus ascendens. It has an ivory-white color and is hard and twisted, the pieces being about an inch long and two lines in thickness. It has a sweetish taste, and forms, according to Dr. Dymock, an excellent substitute for salep, than which is nicer and is more relished by the Europeans. At the present time, when salep is dear, it would form an excellent substitute for it, as food for invalids. Large quantities of different varieties of gum arabic are also now being sent from India. Some of these, however, are imperfectly soluble in water and very dirty, being evidently collected without much care. Nevertheless, those that have been examined possess a considerable amount of adhesiveness, and appeared to contain mere traces of tannin matter. A valerian root, apparently that of V. Wallichii, and costus root (aplotaxis auraculatis), are also among Indian drugs that have been sent to England on speculation recently from India.

Red Lead as a Protection Against Rust.

A correspondent of *The Mechanical News* calls attention to the use of red lead as a protection of iron against rust. He says: "For iron work of all kinds, where the expense can be afforded, it is far superior to anything that has yet been suggested for the purpose. I consider it much better than any of the iron or metallic paints, as it appears to resist water better than any of them. I mix it with boiled oil and make it pretty stiff. On small work I add a little Japan dryers and perhaps 10 per cent. of litharge, so as to make it dry quicker and harder. I do not know that these improve the quality much, but they prevent the lead from running. If a bolt is going through wood, coat the hole with the red lead and paint the bolt, and there will be no rusting. If a piece of iron is going into some place where it cannot be washed, clean it well and then paint it with two coats of red lead. Even if it is going into a place where it will come in contact with water, no harm will come to it."

Does Cinchona Growing Pay?

Mr. Berkout has published a paper in a Dutch-Indian Planters' Journal, in which the question is discussed at what sale price it would be possible to grow cinchona at a profit to the planter. This calculation is one of the most difficult problems in connection with cinchonia cultivation, it being impossible to accurately estimate the quantity of bark on the trees by merely inspecting the section. The author, therefore, recommends that the ascertained results of different cinchona plantations in the island should be collated and published, and that these gardens, according to the size of the trees, their soil, elevation, etc., should be classified into several grades, so that a planter wishing to estimate the quantity of the bark on the trees of his own plantation may be guided by the ascertained results of other plantations situated similarly to his own. The calculations at present resorted to are not founded upon any sound basis, being generally arrived at in the following manner: In a plantation a large number of six-year-old trees, say 1,000, are stripped, and found to give 2,000 kilos. bark. The probable yield of another six-year-old plantation, containing 800 trees per bahoe, is then calculated by taking 800 times the average of the yield of the 1,000 trees already stripped. Such an estimate does not take into account that on soil where trees are planted too close to one another the proportionate yield of branch and root bark is less than where there is a considerable distance left between the trees, and also that trees at the border of plantations are always stouter than those in the center.

Mr. Berkhout thinks that one of the best methods to estimate the proportionate yield of bark of two plantations will be found to be the following: Given two plantations having trees of similar average height and shape, but the one containing 800 trees, averaging 9 centimetres in diameter at 5 feet from the ground, and 4-5 centimeter average thickness of bark, while the other has 1,000 trees of 7 centimeters diameter and 3-5 centimeter bark thickness, it is required to ascertain which plantation will yield most bark. To calculate this, imagine rings of barks stripped from all the trees at a height of 5 feet, and placed side by side in strips. Those of the first plantation would cover a superficial area of

$$\frac{9_2 x - (9-2x4\text{-}5)_5 x}{4} \times 800 = 1{,}65 \text{ square metres.}$$

and those of the second garden

$$\frac{7_2 x - (7-2x3\text{-}5)_5 x}{4} \times 1{,}000 = 1{,}21 \text{ square metres.}$$

Is is only, Mr. Berkhout thinks, by managing their plantations upon scientific and carefully considered principles that the Java planters will be able, after a certain time, to gain that control over the cinchona market to which the extent and the richness of their plantations entitle them.

Myrobalans Fruit as a Medicine.

At a recent meeting of the Societe de Therapeutique, a letter was read from M. P. Apery, of Constantinople, on the subject of myrobalans fruits as a medicine, drawing attention to the undeserved neglect into which they have fallen, since from the middle ages to the beginning of the present century they were highly esteemed for their cholagogue, purgative and astringent uses. They are still extensively used in Turkey and Persia at the present day as a laxative, possessing, like rhubarb, a subsequent astringent action. Mr. Apery, however, appears to labor under a misapprehension with regard to the commercial varieties of the drug, since he regards chebulic, citrine belleric and black myrobalans as four stages of the same fruit gathered at different degrees of maturity. This probably arises from the fact that Sanscrit writers on medicine recognize several kinds of chebulic myrobalans, dependent on size and age, very young fruit about the size of cummin seed being known as hallileh-i-zira, when of the size of a grain of barley as hallileh-i-jawi, when of the size of a raisin as hallileh-i-hindi, when half arrived at maturity and yellowish as hallileh-i-chini, when still further advanced hallileh-i-asfar, and when quite mature as hallileh-i-kabuli. Of these, however, the first, third and sixth only are in general use in India. The third when dried are the black myrobalans of M. Apery, and are known in Turkey as kara-hallileh (that is, black myrobalans), and are commonly carried by the pilgrims to Mecca for use in dysentery and diarrhœa, and are taken in powder in the dose of 1 drachm twice a day. The sixth, or mature fruits, are said by Dr. Waring to form an efficient purgative without griping or other ill effects, the dose varying from one to six fruits. The citrine myrobalans are, however, the produce of Terminalia citrina and the belleric of Terminalia bellerica. These are largely exported for tanning and dyeing purposes. M. Apery remarks that water and dilute alcohol extract from myrobalans a considerable quantity of tannin, precipitating the persalts of iron bluish black, and afford also a greenish oleoresinous matter soluble in alcohol, ether, petroleum spirit and oil of turpentine; to this oleoresin M. Apery gives the name of myrobalanin. He believes that an extract of the fruits would be found very useful in chronic diarrhœa.

Treating Bones With Acid.

The following inquiry was received by the Connecticut Agricultural Station: 'Will you inform me if there is any fertilizing property in sulphuric acid or is it only used to cut bone, in the manufacture of superphosphate? I inclose formula for making phosphate that I have taken from my scrap book and ask your opinion of it."

To these questions was replied substantially: Sulphuric acid is a plant food, but is not generally deficient in our soils. It can be most economically supplied in land plaster which is the sulphate of lime. You ask an opinion as to the inclosed formula. Fine bone dust needs no "cutting" with acid to make it readily available for crops. If you do cut it with acid it will usually be necessary to add a drier like the dry loam or wood dirt of your formula, else the mass will be smeary or pasty. If you want a more quickly acting phosphate it would probably be cheaper to buy plain bone-black superphosphate (at $28 a ton) and mix one or two hundred pounds to the ton with your bone meal rather than experiment with sulphuric acid which is a somewhat dangerous thing for one unskilled in its use to handle.

The cost of hauling 1,600 pounds of loam from and to the fields will go far towards the purchase of a small proportion of superphosphate.

THE particular attention of paint and varnish manufacturers and users of these articles is directed to a very useful book entitled "*Painting and Painters' Materials*" by Charles L. Condit, which treats of Oils, Pigments, Varnishes, Driers, etc., in a thorough manner. This is the only book treating these subjects upon the basis of scientific investigations made in Holland, Germany and France.

Send $2.25 to this office and we will mail a copy at once.

"Petroleum Distillation and Modes of Testing Hydro-Carbons," by Allen Norton Leet. An exhaustive treatise concerning old and new processes of separating and refining Mineral Oils; together with directions as to the setting and construction of stills, treating houses, and all the appurtenances of Oil Refineries; also facts concerning adulterations, and how to detect them. Price, $2.00.

OIL, PAINT & DRUG PUBLISHING CO., 72 William Street, New York.

W. C. DePAUW, Proprietor. N. T. DePAUW, Manager

DePAUW'S AMERICAN PLATE GLASS WORKS,

MANUFACTURE

Polished AND Rough Plate Glass,

Also Single and Double Strength Window Glass, Fruit Jars and Chemicals

Estimates furnished promptly on application.

OFFICE, NEW ALBANY, IND.

REFINERIES, NEW ALBANY, IND., and LOUISVILLE, KY.

NEW YORK OFFICE, 8 & 10 DESBROSSES ST. PHILLIP SEMMER, Agent

PURE **LOGWOOD EXTRACTS** SOLID AND LIQUID.

W. A. ROSS & BRO., 56 PINE ST., NEW YORK.

Washington Butcher's Sons Company,

PHILADELPHIA, PA., U. S. A.

Office and Salesroom, No. 1 South Front Street.

Refiners of Lard,

Manufacturers of Oils.

MINERS' OILS,
WINTER AND SUMMER WHITE COTTON OILS,
WINTER AND SUMMER YELLOW COTTON OILS,
COOKING OILS.

PRIME LARD OIL,
EXTRA No. 1 LARD OIL,
No. 1 LARD OIL.
No. 2 LARD OIL.

Absolute Purity Guaranteed.

Correspondence Solicited.

American Oil Co. of New York,

Office, 45 BROADWAY, NEW YORK.

Refinery - - - - - - Brooklyn, L. I.

MANUFACTURERS OF

COTTONSEED OIL.

OFFER FOR SALE ALL GRADES OF

Crude, Summer Yellow, Summer White, Winter White, and Winter Yellow Cottonseed Oil.

Soapstock.

NAVAL STORES.

Having representatives in the primary markets, we will be glad to name prices for

SPIRITS TURPENTINE

AND ALL GRADES OF

ROSINS

Deliverable in any of the Southern and Western Markets.

STANDARD OIL COMPANY,

LOUISVILLE, KY.

WATERS PIERCE OIL CO.,

REFINERS OF

PETROLEUM.

Manufacturers of CAR and AXLE GREASE.

PRINCIPAL OFFICE,

No. 600 North Fourth St., St. Louis, Mo., U.S.A.

Depots in all Towns in the SOUTHWEST and OLD MEXICO.

The Standard Lubricating Oil of America

FOR RAILROADS.

Galena Engine, Coach and Car Oil,

Gravity 26°, 27°, 28°, 29°; Cold Test, 10° to 15° deg. below zero.

No freezing in coldest weather, and entire freedom from hot journals at any time; perfect uniformity at all seasons of the year. Saves forty per cent. in wear of brasses, as its exclusive use upon a majority of the leading railroads has demonstrated,

SHOWING BETTER RESULTS THAN ANY OIL EXTANT.

REFERENCE FURNISHED ON APPLICATION.

GALENA OIL WORKS, Limited

CHAS MILLER, Pres't and Gen'l Manager

FRANKLIN, PA.

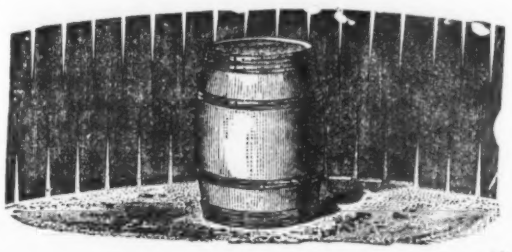
HUGO MATTULLATH, *President.* CHAS. E. COTTRELL, *V. Prest. and Treasurer.* CASS G. ROBINSON, *Secretary.*

ANCHOR MAN'F'G. CO.

ONE STAVE BARREL TRADE MARK

DETROIT, MICH.

MANUFACTURERS OF



One Stave Barrel,

KILN DRIED HEADING

—AND—

COOPERAGE SUPPLIES.

Works at Anchorville, Mich.

Office, 44 & 45 Buhl Block, Detroit, Mich.

ADDRESS ALL LETTERS TO DETROIT

FOR

COTTONSEED OIL MILLS.

Rice Mills Sugar Houses

Distilleries, Phosphate and Fertilizing Works,

Elevators, Malt Kiln Floors, Grain Dryers, Threshers, Separators, Corn Shellers and all kinds of Grain Cleaning Machinery; also for Mining and Concentrating Works; Coal, Coke and Ore Screens; Gas and Water Works; Paper Woolen, Flour and Oil Mills; Filters, Strainers, Ventilators, Extractors, etc Heavy Steel and Iron Plates and Cylinders for Screening Ore, Coal, Stone Phosphates, etc. Revolving Screens, Round and Hexagon. Grizzlies fo Placer Mining. Stamp Battero Screens of all Kinds and Sizes. Mining Screens for all kinds of Ores. Special attention given to work for Railroads and Car Builders. Perforated Tin and Brass of all sizes. Iron, Steel, Copper, Brass and Zinc punched to any size and Thickness required.

Correspondence Solicited. Satisfaction Guaranteed.

THE HARRINGTON & KING PERFORATING CO.

Main Office and Works,

224 & 226 North Union St., Chicago.

THE CHIEF TROUBLE WITH OIL

that does not burn satisfactorily is that the lamp wick is made from short, irregular staple, is poorly woven or is full of foreign substances. A wick having one or more of these faults has a low capillarity to begin with, and after short service begins to clog in the burner and char at the top causing a dim, smoky flame from the best refined oil. Since, however,

THE AMERICAN WICK

has been introduced this fruitful source of annoyance and dissatisfaction has been largely done away with and there is now no excuse for the trade's selling poor wicks or for consumers' accepting them. It is made from pure, long staple cotton, is woven with absolute uniformity and is chemically treated during the process of manufacture in a way to remove the last vestige of foreign substances. The result is a ***PERFECT WICK*** which is now sold and recommended by the very houses--the lamp, burner and oil dealers--whose interests compel them to recommend the best wick made.

We make wicks for every style of burner in the market. For samples, prices and all information, address

AMERICAN WICK M'F'G CO.

JOHN DOUD Gen'l Manager. *26 BROADWAY, NEW YORK*

Choice Pressed Herbs, Leaves, Roots, Barks and Flowers.

OUR FACILITIES for obtaining supplies of every variety of the findst herbs, leaves, roots, bark and flowers are unequaled, and we offer pharmacists the choice of the market in this class of products. Herbs, leaves and flowers are put up in ounces; roots and barks in pound packages only. Each ounce package bears the common and Latin names, with synonyms in English, German and French, and the properties and dose. With poisons the antidotes are given.

We use in putting up our packages of pressed herbs an impervious paper in the case of all rugs depending for their activity on a volatile constituent, thus retaining the strength unimpared.

Send for complete list of Pressed Herbs, Leaves, Roots, Barks and Flowers.

Fluid Extracts.

Specially prepared for the convenience of Druggists for the extemporaneous preparation of Tinctures, Syrups, Elixirs, Wines, etc.

WE PREPARE a little pamphlet detailing the advantages of some of these fluids, which druggists will find especially useful, and we will send this on application. We may mention here a few illustrative preparations.

Fluid Aloes
Concentrated Extract Bay Laurel
Fluid Extract Blackberry
Fluid Extract Buchu and Juniper with Acetate of Potassium
Fluid Catechu
Fluid Extract Wild Cherry Bark, Detannated
Fluid Wild Cherry Bark for Syrup
Fluid Extract Cinchona Compound
Fluid Extract Cinchona, Red, Compound
Fluid Extract Sarsaparilla Compound for Syrup
Fluid Extract Ergot
Fluid Extract Gentian Compound
Fluid Ginger, Soluble
Fluid Extract Golden Seal
Fluid Extract Ipecacuanha
Fluid Extract Licorice for Quinine Mixtures
Fluid Opium, Aqueous and Deodorized
Fluid Opium, Camphorated
Fluid Extract Rhubarb
Fluid Rhubarb, Aromatic
Fluid Rhubarb, Sweet
Fluid Tolu, Soluble
Aromatic Syrup Yerba Santa

It will at all times give us great pleasure to mail on application, complete descriptive price list and literature descriptive of our products, and to afford any information in our power regarding them.

PARKE, DAVIS & CO.,

Manufacturing Chemists,

DETROIT, MICH. **NEW YORK, U. S. A.**

Sugar and Gelatine Coated Pills,

STANDARD AND FANCY COURT PLASTERS,

J. E. MOORE.

MANUFACTURING CHEMIST,

415 BROADWAY ALBANY N. Y.

BAUXITE

(Hydrate of Alumina-Alum Clay)

LUMP AND GROUND.

IRISH HILL BRAND.

Highest in Alumina, and Lowest in Iron produced
Best article wherefrom to Manufacture
Alum, Sulphate of Alumina, Alum Cake, &c.

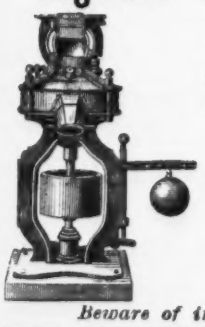
Mines & Mill, Nr. BELFAST & LARNE.

THE BAUXITE CO., Limited, PROPRIETORS

SOLE AGENT, GEO. G. BLACKWELL 26 CHAPEL ST., LIVERPOOL, ENG

THE ORIGINAL

Bogardus Patent Universal Eccentric Mill



Will grind any thing Dry or Liquid, Hard or Soft, such as Drugs of all kinds, Salts, Roots, Stems, Berries, Argols, Nutgalls, Spices, Ores, etc., etc., Paints in Oil, Ink, Blacking, etc., etc.

Has a world-wide reputation of being the

BEST MILL IN THE WORLD.

Catalogues sent on application.

MANUFACTURED SOLELY BY

J. S. & C. F. SIMPSON,

SUCCESSORS TO J. W. THOMSON,

26—36 Rodney St., Brooklyn, N. Y

Beware of imitations now being placed upon the market

MERZ CAPSULES.

Reduction in Price.

1000 Merz Improved Empty Capsules in Lacquered Metal Can, 75c.

500 Hard Filled Capsules in Lacquered Metal Can:

Copaiba Para ..... 40c per hundred.
Copaiba and Oleoresin Cubebs ..... 80c " "
Merz Compound Sandalwood ..... 75c " "

OVER 100 STANDARD FORMULAS IN HARD AND SOFT FILLED.

LARGE QUANTITIES IN BULK A SPECIALTY.

Liberal Discount to Jobbers. Same Uniform Reduction in Boxed Goods.

Send for Price List. **The Merz Capsule Co., Detroit, Mich.**

H.W.J.

DIAMOND BRAND.

CRYST-ALBA

The Latest Discovery in the Chemistry of Coal Tar,

a beautiful snow white crystal, chemically pure, free from oil, alkalie or acid, is not poisonous and the only known substance which will absolutely destroy the moth and moth-worm. One pound of Cryst-Alba will be found superior to three pounds of camphor. In order to introduce, through the Wholesale Drug Trade, we are making liberal arrangements which will be made known upon application. Send for sample and circular.

Manufactured by **The H. W. Jayne Chemical Co.,**

FRANKFORD

PHILADELPHIA.

LANOLINE LIEBREICH

(PATENTED.)

The New Base for Salves and Ointments, is of a White Color and Perfectly Odorless; for Burns, Wounds and all Skin Diseases. Superior to Vaseline and ordinary Fats.

Manufactured by

Messrs. Benno-Jaffe & Darmstaedter, Martinikenfelde, Germany.

For Sale by **LUTZ & MOVIUS,** NEW YORK.

Sole Agents for U. S.

ROGERS & PYATT,

IMPORTERS,

78 & 80 Maiden Lane, New York.

Shellac, all grades. **Verdigris,** Pods. Granulated and Powdered
Button Lac, **Cudbear.**
Seed Lac, **Madder,**
Stic Lac, **Red Argols**
Gum Sandarac, **Gum Senegal.**

manufacturers of Bleached Shellac, best quality,

DRUG MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on pages 49 and 50.

TUESDAY EVENING, March 13, 1888.

Since Monday morning business has been virtually suspended in the drug market, as it has been in other lines, owing to the severity of the storm. Nearly every means of communication with other cities is cut off, and the condition of the streets and rivers make the transportation of goods impracticable if not quite impossible. Many business houses were closed yesterday, and those that are open to-day are doing practically no business. Up to Saturday night the volume of trade in most lines had been fully up to the average of of preceding weeks, and the prospects that this condition of affairs would continue for some time to come were very good. Business as usual was confined to the supplying of current requirements and there was little in the situation to cause material fluctuations in values. Shortly after our last issue there was quite a flurry in the opium market, which induced a general belief that the long delayed change in the situation had come, but the unexpected advent of the storm put an end to the movement and leaves the market in a somewhat uncertain condition. There have been one or two changes in prices during the week, the following being the more important:

ADVANCED.	DECLINED.
Opium,	
Lycopodium,	
Celery seed.	

Opium.

As indicated in our last report, the market for opium took a turn for the better, and for a time it looks as though the views of those who believed that the long depression was the result of bear influences, would prove correct. In two or three days there was a considerable movement resulting in sales of about 700 cases at $3@3 25 duty paid, much of it changing hands at the lower figure. The market meanwhile developed a much stronger tone than had prevailed previously, and closed on Saturday at $3 37½ for 5 cases and $3 40 for single case lots. Owing to the interruption of business it has been difficult to obtain any information regarding the market during the past two days. Many looked upon the movement as one of those spasmodic changes which in the past have come over the market, leaving it in worse shape than before. Others are inclined to believe that a bear movement which has long been in progress has reached its culmination, and will prove to be the greatest thing of its kind ever known in this market. At this writing it is impossible to arrive at any definite conclusion, but in the course of another week some interesting developments may be expected. The improvement here does not seem to have struck a sympathetic chord abroad. Late advices from the other side report an easy feeling there, and the last cable from Smyrna quotes 9s 11d for Karahissar. 11s 1d for Yerli, and 8s 8d for talequale, a decline of about 3s since the beginning of the month. Mail advices from that source indicate that there is some reason for the belief that while the markets are being depressed by certain operators they are buying up everything they can get. A Smyrna letter of the 25th ult. says that sales had been made there of 230 cases, chiefly for American account. Serious injury to the Salonica crop by frost is reported, and it is also said that in the Malatia districts there has been a good deal of damage done from the same cause. The Smyrna plantations are progressing favorably, the rains have been abundant, and should nothing occur, says our informant, to the detriment of the crop a full outturn may be expected.

Quinine.

The market is in an uncertain condition, which the restriction of business caused by the storm has not helped to improve. While comparatively low prices are named for small quantities by outside holders, the same figures would not be accepted for large blocks. Still nobody seems inclined to operate on a large scale, and the jobbing demand has been only moderate, stopping almost entirely the last two days. We would call the market about 43@45c according to brand, holder and quantity, yet in the absence of business these figures are merely nominal. The bark sale took place to-day in London, the offerings consisting of 1,800 bales East India and 1,700 bales South American, but up to the close we were unable to obtain the results.

The receipts of quinine for the week have been 11,250 ozs entered at the Custom House,

Receipts of quinine for the week	11,250
Since Jan. 1	317,262
Corresponding period last year	456,526

Miscellaneous.

Alcohol is without further change. There is a good jobbing demand which is supplied at $1 1°@2 18 as to quantity.

Borax remains as when we last wrote. The syndicate has announced no further advance in prices and they are not expected to make a change so long as the public clamor against trusts continues. This market is steady

SALOL.

Dr. F. VON HEYDEN'S Successor at Radebeul-Dresden, Manufacturers and Patentees for Germany and United States of America.

W. H. Schieffelin & Co., New York,

Sole Agents for the United States and Canada for this Factory.

Registered Trade Mark, "Salol."

This remedy, which we were the first to extensively introduce to the medical profession of the United States, is a compound of Phenol and Salicylic Acid.

Salol has attracted very great attention by reason of its value in the treatment of Rheumatism and Rheumatic affections, as well as other diseases. It possesses all the advantages of Salicylic Acid and Salicylate Soda, while not causing any of their objectionable effects.

To those who desire fuller information concerning the history, properties and uses of Salol, we would state that we have published "A Treatise on Salol," in which is incorporated the notes of F. E. GEORGI, M.D., Physician to the City Hospital, Goerlitz (Silesia). This Treatise will be mailed to anyone on application.

This valuable remedy is best administered in the pilular form. We prepare our Soluble Pills of Salol in strengths of 2½ grs. and 5 grs. to each pill. We quote:

SALOL.

In 1 lb. bottles	$1.50 per lb.
In ½ lb. "	1.60 "
In ¼ lb. "	1.75 "
In lots of 5 lbs. in 1 lb. bottles	1.35 "
In lots of 5 lbs. in ½ lb. bottles	1.35 "
In lots of 5 lbs in ¼ lb. bottles	1.50 "
Or assorted lots of 5 lbs. may be made up at best price.	
In 1 ounce bottles	.35 per oz.
In 1 oz. bottles in lots of 25 ozs	.31 "

SALOL PILLS.

W. H. S. & Co.'s	Bottles of 100 Pills.	Bottles of 500 Pills.
Soluble Salol Pills, 2½ grs.	$ .80	$3 80
" " " 5 "	1.40	6.50

Pills subject to usual discount.

Soliciting your orders, we are, yours truly,

W. H. Schieffelin & Co.,

170 & 172 William St., NEW YORK

NEW YORK

Quinine and Chemical Works

LIMITED

Office. 114 William St., New York.

MANUFACTURERS OF

QUININE, ALOIN

MORPHINE

SANTONINE. COCAINE

NORWEGIAN COD LIVER OIL.

We desire to call attention to our "Maltese Cross" brand Norwegian Cod Liver Oil specially adapted for bottling, as being without exception the finest in quality and appearance, imported into this market. To meet competition we also offer our "H" brand Oil at the market quotation. This is a pure pale oil.

McKESSON & ROBBINS.

ROSENGARTEN & SONS, 12 Gold Street New York.

MANUFACTURING CHEMISTS, Philadelphia.

Sulphate of Quinine,	Bromide of Potassium	Hypophosphites,
Muriate of Quinine,	Nitrate of Silver,	Subnitrate of Bismuth,
Citrate of Iron and Quinine,	Iodide of Potassium,	Spirits of Nitre,
Sulphate of Cinchonine,	Sulphate of Morphine,	C. P. Acids,
Sulphate of Cinchonidine,	Acetate of Morphine,	Tannin,
Sulphate of Quinidine,	Muriate of Morphine,	Resublimed Iodine,
Bromide of Ammonium,	Nitrate of Ammonia,	Ether.

C. F BOEHRINGER & SOEHNE,

MANUFACTURING CHEMISTS.

Mannheim, Germany, and 49 Cedar Street, New York.

QUININE.

Quinidia,	Codeine,	Resin Jalap,
Cinchonidia,	Digitalin,	Salicin,
Cinchonia,	Ergotin,	Spartein,
Chinoidine,	Koussein,	Strophanthin,
Acetanilid,	Morphine,	Strophanthi Tinct.
Aconitia,	Papain,	Terpinhydrat,
Arbutin,	Pelletierin,	Terpinol,
Atropia,	Pilocarpin,	Urethan,
Caffein,	Physostigmin,	Veratrin,
Cocaine,		

ANTIFEBRIN.

(REGISTERED.)

E. MERCK, Manufacturing Chemist,

SOLE LICENSEE FOR THE U. S.

No 73 William Street, NEW YORK.

N. B. Antifebrin is manufactured by KALLE & CO., and any package not bearing their label is a counterfeit.

ACETANILID.	IODOL.	TERPIN.
ANTIFEBRIN.	MENTHOL.	TEREBEN.
AMYLENHYDRAT.	SALOL.	URETHAN.
ADONIDIN.		RESORCIN.
ATROPIA.	**LEHN & FINK,**	PARALDEHYDE.
ACID BENZOIC.	128 William St.,	SUGAR OF MILK.
ACID SALICYLIC.	NEW YORK.	ORRIS ROOT.
COCAINE MURIATE.		Cod Liver Oil.
CHLORAL HYDRATE.	JAMBOL.	Rose Leaves.
CAFFEIN.	ICHTHYOL.	SCALE PEPSIN.
SACCHARIN.	BENZOL.	Cinchona Bark.

Works at Feuerbach established by FRIDR. JOBST —1806.—

Branch house at Milan "SUCCESSORI DI FRIDR. JOBST."

Works at Sachsenhausen established by C. ZIMMER —1837.—

Vereinigte Fabriken chemisch-pharmaceutischer Producte Feuerbach-Stuttgart & Frankfurt a. M.

Frankfort °/M. **ZIMMER & CO.** GERMANY.

Offer to the trade their strictly prime

QUININE

on spot and for future delivery, in quantities to suit at lowest market quotations.

Represented by **RICHARDSON DRUG CO., St. Louis, Mo.**

JOHNSON & JOHNSON, 23 Cedar St., New York.

KNOWLES BROTHERS,

Importers and Refiners of

SALTPETER

62 William Street, NEW YORK

RICHARD C. REMMEY Agt.

Philadelphia Chemical Stoneware Manufactory

1100 East Cumberland St., Phila., Pa.

Manufacturer of all kinds of Chemical Stoneware for Manufacturing Chemists Also Chemical Bricks for Glover Tower.

Flower and Garden Seed

Free by Mail. Send for Catalogue

F. E. McALLISTER,

SEED MERCHANT

22 DEY STREET, NEW YORK.

Established 1836.

Croton Laboratory.

OFFICE, 26 CEDAR ST., N. Y.

J. B. Hendrickson

IMPORTER AND REFINER OF

Crude Saltpetre and Nitrate of Soda.

Best qualities always on hand at lowest cash price.

HELLER, HIRSH & CO

Commission Merchants and Brokers

Office, 164 Front St. New York

Acid Phosphate, Kainit, Muriate of Potash Crude and Ground Mineral Phosphates.

SPECIALTIES:

Blood and Egg Albumen, Starch, Bonebiack, Cottonseed Meal, Dried Blood and other Fertilizing Materials.

Bermuda Ochre.

Single Washed,
Double Washed,
Extra Floated

Fully equal to ROCHELLE.

BERMUDA OCHRE TRADE MARK G&C

GRIDLEY & CO., Sole Agents of the BERMUDA OCHRE CO.,

87 Maiden Lane, New York

LIEBMAN & BUTLER,

IMPORTERS OF

BRIMSTONE,

22 S. William St., New York

JOHN J. THOMSEN,

51 W. Balto. and 66 & 58 Germanste.

BALTIMORE, MD.,

IMPORTER AND EXPORTER OF

DRUGS

AMERICAN INDIGENOUS

OILS, ROOTS, BARKS, HERBS

A SPECIALTY.

with a fair demand, dealers quoting 8¼@8½c for city refined, 7⅞@8c for California and 7½@7¾c for concentrated.

Cacao butter is selling to a moderate extent at the revised quotations. These are 40@42c as to quantity and quality.

Carbolic acid remains steady with a fair demand, the quotations being 39@42½c in pound bottles, as to brand and quantity, and 33@35c in drums.

Citric acid is quite firm, but there is not much doing in foreign, which is held at 50@51c. The demand for domestic was fairly active during the first four days of the week, and prices were maintained.

Codliver oil, Norwegian, is reported to be weak abroad, in anticipation of a large catch. Recent contracts for forward delivery were made there at a price equivalent to $20 in bond. This market does not appear to have been affected, and dealers continue to quote $27@32, according to brand, though they have little business to report. Newfpundland at 65@70c per gallon, has only a small jobbing outlet.

Colocynth apples are gaining strength under diminishing supplies and a fair consuming demand. Prices however have not quotably changed, the range being 47½@50c for Trieste and 25@26c for Spanish.

Cuttle fish bone is held firmly at 22c, and some dealers want more money. There is a good jobbing demand.

Ergot has been jobbing fairly but there is no disposition among either buyers or sellers to operate on a large scale. Prices are maintained at 45@50c for Russian and 52½@57½c for Spanish.

Glycerine has a fair jobbing outlet and remains steady at 21½@22c in drums and 22@23½c in cases, according to quantity.

Insect powder continued to move freely both on old contracts and new orders until within the last two days, when the blockade of general business put a stop to further trading. The feeling is very strong and a further large movement is expected. The quotations range from 45@55c according to brand and quantity.

Lycopodium has been in more demand and with a depleted stock and prospective short supplies dealers are asking higher prices. We quote 38@40c as to quantity.

Quicksilver has not changed. There is a moderate jobbing demand which is supplied at the former quotations of 63@65c as to quantity. At the close the feeling was a trifle firmer in sympathy with London advices.

Balsams.

There have been no further developments in the macket for balsam copaiba which may be written firm under a fairly active demand for consumption and small stocks. We quote 57½c for Central American, 62½c for Para and Maranham and 65c for Angostura. Canada balsam fir is moving slowly in a jobbing way at $3 25@3 50 as to quantity. Oregon is dull at $1 15@1 20. Balsam Peru is steady but only in moderate demand. We quote $1 10@1 15 as to quantity. Balsam tolu sells in a small jobbing way at 30@32c.

Beans.

The demand for Tonka beans has been fair in a jobbing way, and prices remain steady at $1 25@1 40 for Angosturas, 65@75c for Surinams, and 40@45c for Paras. Mexican vanilla beans have been in active request, and we hear of sales of 3000 lbs. within the range of $4@12 for whole and $3 50@5 50 for cut. Bourbons have also been in demand, the better kinds commanding $5@8 though some grades are to be had down to $2 50.

Essential Oils.

This market is almost featureless. There is a steady movement into consumption on jobbing orders, but large transactions are a rarity. On the whole, prices are well maintained, and we find that there have been no changes of particular importance. Late reports from Michigan state that the peppermint roots have been badly injured by the frost. It is also intimated that in any event the crop will be a small one as the farmers are disgusted with the unprofitable results of the last season. Prices here are unchanged and nominal, in the absence of important demand.

Flowers.

There is nothing particularly new in this market. Trading has been confined to jobbing limits and full prices have been obtained. Reports from Trieste still indicate higher prices and an advancing market for insect flowers.

Gums.

The usual amount of business has been done in this department on jobbing orders. It is intimated that the stock of low priced camphor in outside hands is becoming depleted, and as the demand is active they are less disposed to shade manufacturers' prices than heretofore. In other gums the feeling as to prices is steady.

Herbs and Leaves

The market for herbs and leaves has presented a generally quiet appearance, business not exceeding jobbing proportions in any line. Coca leaves are held firmly at 30@35c for dark and 25@30c for light green. American is unsettled and dull but not quotably lower. Sennas are jobbing fairly at former quotations.

Roots.

In most of the leading descriptions there has been a fair business done, jobbing sales being as usual the rule. Prices have undergone no change, the general feeling being one of steadiness.

Seeds.

The general features of the market are about the same as at this time last week. That is, prices are steady and the demand in a jobbing way fair. Celery seed is doing better on foreign advices and Guinea grains are firm under small supplies and are active inquiry.

Shellac.

The feeling in this market is somewhat depressed owing to the unfavorable reports from London and the lack of important demand. Still dealers are looking for an increased movement on orders from consumers, and hesitate to grant concessions in prices. The London *Commercial Record* of the 2d inst. reports a dull and inanimate market, without quotable change in prices, however. A private letter states that the reported failure of the sticlac crop is untrue, and that London stocks are heavy and increasing.

Spices.

Nobody has been disposed to do business the past two days, and prior to that very little trading took place. The movement in pepper, which started previous to our last, has not continued, and though steady, no improvement in prices has taken place. The tone of the market as a whole is rather in the favor of buyers, but we find no quotable changes to report.

Cork Substitutes.

Some of the inventions for the improvement of cork are worthy of admiration, not from their practicability, but on account of the ingenuity displayed in their production—the inventor appearing to entertain an unwholesome contempt for practicability, remarks a contributor in a foreign trade journal. He has invented something new; there is a fortune in it, or ought to be, and possibly would be, if it were not quickly ascertained that in many cases the improvement was worse than the original. In 1826 an ingenious individual invented a waterproof covering for cork, "forming elastic plugs or stoppers for bottles and other vessels, by covering ordinary corks with a thin coat of caoutchouc." In 1838 there was patented "a combination of known materials forming a substitute for corks and bungs." Fancy patenting a combination of unknown materials! The known materials are "fibrous substances and caoutchouc. The substances are felted in a roll of the diameter and length required, and to the degree of hardness which will leave the stoppers sufficiently soft and elastic. The roll is cut into lengths for stoppers, and each length is rubbed over with caoutchouc in solution. When the coating has

Charras Essential Oils.
CLAYTON ROCKHILL,
COMMISSION MERCHANT,
30 PLATT STREET, NEW YORK
SOLE AGENT IN THE UNITED STATES FOR
CHARRAS & CO., Nyons Drome, France

Aloes, Coca Leaves, Guarana. Select Licorice Root Gentian Root, Hellebore Root, Orris Root. Juniper Berries Rhubarb Root, Am. Saffron.
R. HILLIER'S SON COMPANY,
46 CEDAR STREET, NEW YORK.
Pure Powdered Drugs and Spices.

See James Chaskel & Co.'s Advertisement on Page 34.

VANILLA
BEANS, EVERY QUALITY,
FOR SALE BY
TYLER & FINCH,
54 CEDAR ST., NEW YORK

BALLER'S
OIL OF LEMON
NEW CROP ARRIVING.
Codman & Hall,
IMPORTERS.
125 Milk Street
BOSTON.

BOTANIC DRUGGIST—Wholesale.
H. L. JEWELL,
45 N. Fron Street - - - - PHILADELPHIA, U. S. A

GUM SHELLAC
ALL GRADES.
HOWE & FRENCH. - - BOSTON

SOZIO & ANDRIOLI,
Grasse, France.
MANUFACTURERS OF
Pomades and Materials for Perfumery
DISTILLERS OF
ESSENTIAL OILS,
ROSE AND ORANGE FLOWER WATERS.
SOLE AGENTS IN THE UNITED STATES AND CANADA.
LIEBMAN & BUTLER NEW YORK

George A. McLaren & Co.,
IMPORTERS' & MANUFACTURERS' AGENTS,
45 St. Sacrament Street, Montreal.
Home and Foreign Correspondence solicited with Manufacturers of Drugs, Chemicals, Fancy Goods, etc.

MITCHAM OILS.
Steam Distilleries, Mitcham Rd, West Croydon.
JOHN JAKSON & CO.,
17 PHILPOT LANE, LONDON, ENGLAND
LARGEST GROWERS AND DISTILLERS OF
MITCHAM LAVENDER & PEPPERMINT OILS,

RHUBARB!
ALL GRADES OF THIS ROOT;
Whole, Cut, Chip, Ground, Sawdust, and Powdered.
Importers and First Hands,
DODGE & OLCOTT,
86 & 188 William St., NEW YORK,

MILWAUKEE MALT EXTRACT CO

SOLE MANUFACTURERS OF

Milwaukee Malt Extract.

The Only Malt Extract Containing Carbonic Gas and Free from Alcohol.

An Absolutely Pure Extract of Barley Malt and Bohemian Hops Unfermented, Therefore Free from Alcohol.

(All other Malt Extracts contain Alcohol.)

It is especially adapted for administration to patients suffering from nervous exhaustion, feebleness, indigestion, malnutrition, anæmia; also the best article produced for nursing mothers and children. It is very pleasant to the taste. Will keep in any climate if not allowed to freeze.

The diastase contained in our Malt Extract, together with the carbonic gas, renders starchy food immediately soluble by converting the starch into malt sugar and dextrine, in which form they can be readily assimilated by the system, thus creating animal heat and aiding the formation of fat. It is of great aid during lactation, as it increases the amount of sugar and phosphates in the milk, thereby nourishing the infant and supplying strength to the mother.

It will also be found of great value in cases of consumptive tendencies and in the latter stages of phthisis, as it will improve the appetite and assimilate the food, supply the waste of elementary matter and enable the system to resist the effects of the disease. It also acts as a roborant in all cases of debility and is a most valuable addition to the tonic and restorative treatment required in convalescence.

PRICE, 25 CENTS.

Manufactured under Letters Patent of Sept. 26, 1882, July 8, 1884 April 28, 1885, by the

Milwaukee Malt Extract Co.,

Factory and Office, - - KENOSHA, WIS.

For Sale by all Wholesale and Retail Druggists.

CHICAGO DEPOT, - - PETER VAN SCHAACK & SONS.

H. TROMMSDORFF

Erfurt Chemical Works, Erfurt, Germany

OFFER TO THE TRADE A FULL LINE OF

Scientific, Pharmaceutical, Technical Preparations & Chemicals

THROUGH THEIR AGENTS

EIMER & AMEND.

NEW YORK.

CHEMISTS' SUPPLIES

Strictly Chemically Pure Acids,
Strictly Chemically Pure Chemicals,
Superior Bohemian Glassware,
Superior Filterpapers,
Superior German Porcelains,
Superior Heating Apparatus,
Superior Graduated Ware,
Perfect Balances and Weights,
Perfect Acid-proof Stoneware,
Platinum Vessels and Salts,
Selected Drugs, Chemicals and Pharmaceutical Preparations,
All Testing Appliances and Reagents

OFFERED BY

EIMER & AMEND,

205, 207, 209 & 211 Third Avenue, NEW YORK

SOLE AGENTS FOR

H. Trommsdorff's Chemicals,
Joseph Kavalier's Bohemian Glass
Schleicher & Schull's C. P. Filter-papers,
E. Marchs' Sons, German Stoneware,
Dr. C. Scheibler's Polariscopes,
Professor Jolly's Spiral Balances

PERFECT POSTAL PACKAGE.

The P. P. P. Package has been highly approved by the Post Office Department at Washington.

Post Office Department.
Office of the General Superintendent of the Railway Mail Service,
Washington, D. C., July 26, 1886.

POSTAL PACKAGE CO., Baltimore, Md.

Sirs—I have to acknowledge receipt of yours of the 24th inst., regarding sample package for liquids.

I have carefully examined your Package. The Package conforms in all respects to the requirements of the Department, and is suitable for the transmission of liquids in the mails. Very respectfully,

JNO. JAMESON, General Superintendent.

ALSO SOLE MANUFACTURERS AND PATENTEES OF

Self Sealing Screw Top Cans

FOR

Paints, Varnishes.

No Soldering on of Tops.

Cost no more than common cans.

SEND FOR PRICE LIST.

White Lead,

Absolutely Air Tight.

Easily Opened and Closed.

MADE IN ALL SIZES FOR ALL PURPOSES.

P. P. P.

The above cut (reduced) represents a sectional view of the Perfect Postal Package, and suggests the strength, safety and surety of the Package.

POINTS.

This package is the best, for the purpose that can be devised, because:

1. It is the simplest.
2. It is the cheapest.
3. It has stood the severest tests.
4. It is approved by the Post Office authorities.
5. While light in weight it is as strong as material will make anything.
6. It is adapted for mailing any liquid, as spirits, varnishes, essential oils, syrups, oil, perfumery, Pharmaceutical products, etc.

☞Where goods are ☞placed properly in ☞this package they ☞always carry safely.

POSTAL PACKAGE CO, No. 34 S. PACA ST., BALTIMORE, MD., U.S.A.

hardened by evaporation of the solvent, a very thin sheet of india-rubber (coated on one side with solution of caoutchouc) is brought round the length, and the edges are joined. Other portions of sheet india-rubber are applied to the ends of the length, and the projecting parts being cut true to the sides, the stopper is complete"—finished, in fact; for, after a lot of money had been spent upon the patent, it was not an improvement upon cork. In spite of this the same man, a few years after, patented an "improvement" upon his previous improvement; but it has not transpired that the invention has gained upon public favor.

A rather more likely scheme was that of a patent taken out in the year 1844, for 'improvements in corks and other stoppers, and a new composition or substance which may be used as a substitute for and in preference to cork, and a method or methods of manufacturing the said new composition or substance, into bungs, stoppers and other useful articles." There is something fearful and wonderful about the phraseology employed in drawing up specifications for patents, so much expressed by so little, or shall it be said so little expressed by so much circumlocution and dainty treading, that it is not to be wondered at if the inventor loses sight of his own invention. The foregoing announcement is thus explained: "The substitutes (for cork) are cork ground to powder, sawdust, gutta percha and caoutchouc." It seems a pity to grind the cork to powder when it is so very good by itself, but the inventor has his reasons, if not always his reason. "The gutta percha, by itself or in combination with caoutchouc, is dissolved by any ordinary solvent, and mixed with the cork or sawdust. Or the gutta percha may be put in a solid state into a masticating machine, and as much cork or sawdust be thrown in as the plastic mass will readily take up. The mass, when thoroughly incorporated, is put into large moulds, and afterwards cut up into corks, etc.; or, it is at once put into moulds of the size and shape of stoppers, etc." This seems to be rather an expensive and laborious method of improving upon corks.

Similar inventions of more recent date, for the same purpose, are numerous; and almost every year records some useless patented substitute for corkwood in its specific application as a bottle stopper. So-called improvements of this kind are in the wrong direction.—*National Bottlers' Gazette.*

Oil of Camphor and Oil of Sunflower.

BY C. T. KINGZETT, F. C. S., F. I. C.

This was the sixth of a series of papers on the oxidation of essential oils read before the Society of Chemical Industry, and it referred more particularly to the atmospheric oxidation of turpentine, camphor oil, and oil of sunflower. As regards camphor oil, Yoshida a few years ago stated as the result of an examination of a five years' old sample that the oil consists of terebinthene, citrene, camphor, and a body which he called camphorogenal. The last named body is the most interesting, for Yoshida gave it as his opinion that from it camphor is formed, and that it itself is a product of the oxidation and hydrations of terpenes. Mr. Kingzett could not, however, regard Yoshida's experiments as conclusive,' and his observations on the oxidation of the oil in presence of water showed that peroxide of hydrogen was freely produced. For instance 120 gallons of the oil during fifty-two hours' oxidation yielded 1,000 grams of the peroxide; and on another occasion, 320 gallons yielded 3,379 grams, calculated as pure H_2O_2, and more was afterwards obtained. After quoting figures showing the production of oxidized oil from camphor oil, the author proceeded to show that the formation of peroxide of hydrogen follows the production of camphoric oxide. It is possible that this may be identical with camphorogenol, in which case peroxide of hydrogen would be formed thus:—

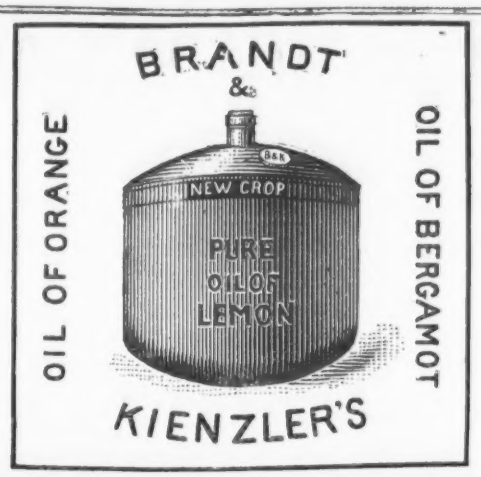
Camphorogenol — Borneol.

$$C_{10}H_{16}O_2 + H_2O = H_2O_2 + C_{10}H_{18}O.$$

This, however, is hypothetical, and it is more likely that the peroxide is formed as the result of the reaction of water upon a more highly oxidized body, such as $C_{10}H_{16}O_4$, which yields along with peroxide a bitter substance—$C_{10}H_{16}O_3$—actually found by the author in previous experiments, and in these. It is possible that this substance has the formula $C_{10}H_{16}O_3$, H_2O, and the author calls it "soluble camphor." A sample of it was exhibited. It is a brown tenacious substance, with a peculiar odor. A sample of oxidized camphor oil was experimentally shown by the iodine test to contain hydrogen peroxide in apparently as great abundance as oxidized turpentine. As regards the soluble camphor, the author thought there was a relationship between it and the thymol like body, which is obtained as the result of the oxidation of turpentine. He had been unable to obtain ordinary camphor from this body. In concluding Mr. Kingzett called attention to the importance of the subject in connection with natural sanitation. He has in "Nature's Hygiene" given an account of the immense influences on climate which are exercised by pine and eucalyptus forests wherever they exist. In the case of Australia, Mr. Bosisto has calculated that in New South Wales and South Australia there may be held no less than 968,887,440,000 gallons of eucalyptus oil at one and the same moment in the leaves of trees more or less massed together and occupying a belt of country over which the hot winds blow. Accepting this estimate, Mr. Kingzett calculates that this quantity of oil can give rise by its oxidation to the production of 92 785,023 tons of hydrogen peroxide, and 5,7 587,945 tons of soluble camphor ($C_{10}H_{16}O_3$). Considering their powerful oxidizing and antiseptic properties, it is easy to understand how large an influence for good they must exercise upon the sanitary condition of the country in which they are generated. Camphor oil is equally effective with eucalyptus and pine oils, and it follows that within the limits of the existence of camphor forests they may be regarded as constituting a natural sanitary agent of the same high order as forests of pine and eucalyptus trees. As regards sunflower oil, Mr. Kingzett said that he had not obtained any peroxide of hydrogen from it, but he did not know whether the sample was produced from the seeds of the sunflower or from the leaves.

In the discussion on this paper Dr. C. R. A. Wright said that some years ago he had examined camphor oil and found that it was of very variable composition. From one sample he had obtained a hydrated turpene, $C_{10}H_{18}O$, and if that still existed in camphor oil it would, on the absorption of oxygen, be changed to camphor. He had recognized a similiar body in dementholized Japanese pepperment oil. Mr. Thomas Christy said that he had resided in China, and had seen camphor collected. At first obbtained it was in the form of an oil, which, however, did not keep liquid, so the natives added another oil to it. But they had stopped that since they learnt how, by blowing air into the oil, they could make camphor from it. Mr. Kingzett, in replying to these remarks, said that if people blew air into camphor oil in China they ought to pay him a royalty, for that was his process.

Mexican VANILLA BEANS.



Bourbon VANILLA BEANS.

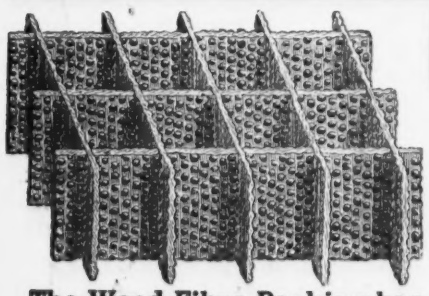
MEXICAN
VANILLA BEANS
High Gravity Essential Oils of the Finest Quality.
CHARLES E. HIRES, RECEIVER and IMPORTER,
117 & 119 Arch Street,
PHILADELPHIA, U. S. A.

BOURBON VANILLA BEANS
ESSENTIAL OILS
MUSK, AMBERGRIS.
Raw Materials for Perfumers and Soap Makers.
LEO BERNARD & CO.,
Importers and Sole American Agents for G. De Laire & Co., Paris, France
Haarmann & Reimer, Holzminden, Germany.
VANILLINE, COUMARINE, HELIOTROPINE, ETC.
Paris, France: 117 *Bvd. Richard Lenoir.* *New York:* 228 *Pearl Street.*

PEIRSON & PERKINS, NEWARK, WAYNE CO., N. Y., U. S. A.
Manufacturers and Distillers of
Pure Essential Oils, Peppermint, Spearmint, Tanzy and Wormwood.
Awarded GOLD MEDALS at Amsterdam and New Orleans.
Correspondence Solicited for Domestic and Export Trade

SEEDS
THE ALBERT DICKINSON CO.
Dealers in Timothy, Clover, Hungarian, Millet, Red Top, Blue Grass, Lawn Grass, Orchard Grass, Pop Corn, &c.
Specialties: FLAX SEED and BIRD SEEDS.
Warehouses: 115, 117 & 119 Kinzie St., OFFICES, 115 KINZIE ST., 104, 106, 108 & 110 Michigan St., CHICAGO, ILL.

SPECIALTIES.
GLASS BOTTLES & GLASSWARE SUNDRIES,
Show Bottles, Tubes, Jars, &c. for Exhibitions.
BREFFIT'S AIRE & CALDER BOTTLE CO., Ld., London, England.
J. W. BINNEY, Sole Agent for the U. S.
17 Platt Street, NEW YORK.



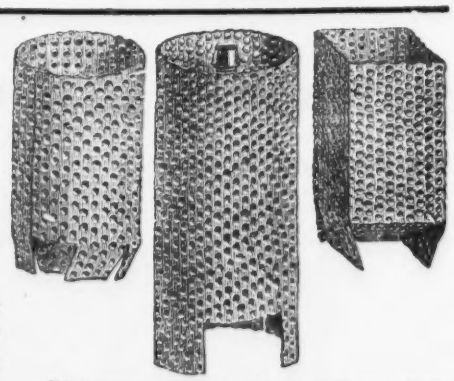
U. S. BottlePacking Co.
Sole Manufacturers under U. S. Patents of the
ELASTIC WOOD FIBRE PAPER
For Packing Bottled Merchandise, Tiles, and all Fragile Articles.

The Wood Fibre Packing has been used by someof the largest shippers in the U. S. Sent all over the world and not a single complaint of breakage has been reported. It is absolutely safe.

Samples and prices furnished upon application.

Put up in any shape desired by the packer or sold by the yard or roll. In plain cylinder with a sheet for the top and bottom of the box. In sewed wrappers with flexible bottoms. In cartons. In rack cases to fit a packing box. In self-sealing wrappers, neatly folded in a sheet or wrapping paper for single packages.

All correspondence address to
15 Jay Street, NEW YORK.
BOSTON OFFICE: 99 Milk Street.
CINCINNATI OFFICE: 165 Walnut Ave.



The special attention of Druggists and all packers of bottled goods and fragile articles is called to this packing.

It is neat, clean, compact, and saves from 30 to 50 per cent on cost of freight.

Sample cases fitted up without expense to owners.

WHOLESALE PRICES CURRENT.

☞Our Quotations are those of Importers and Manufacturers, for original packages and large lots. For broken lots higher prices are asked.

Oils, Etc.

Vegetable Oils.

Linseed Domestic Raw, in bbls,	₩ gal	56	@ 57
Boiled, in bbls		—	@59
Calcutta, Raw, in bbls		56	@57
Western on spot		54	@56
Rapeseed, in bbls		54	@55
Cottonseed, Crude Prime		36	@37
Crude, off quality		—	@35
Yellow Summer Prime		41	@43
Yellow Summer, off qual		39	@40
Yellow Summer cooking		—	@—
White Summer		43	@44
Yellow Winter		53	@54
White Winter		54	@54
Soap stock		1¾	@ 1¾
Olive, Sicily		69	@70
Spanish		74	@75
Soap Stock		4¾	@ 5
Palm, Prime	₩ lb	4¾	@ 5
Off quality		4¾	@ 4¾
Cocoanut, Cuban		—	@—
Ceylon		—	@ 5½
Cochin		6½	@ 7
Castor, No. 2		—	@—
No. 3		11½	@12
Rosin, First run	₩ gal.	—	@ 9
Second run		—	@12
Third run		—	@15
Deodorized		—	@18

Animal and Fish Oils.

Whale, Natural Winter	₩ gal.	40	@ 41
Bleached Winter		42	@ 43
Extra Bleached Winter		44	@ 45
Bleached Spring		40	@ 41
Sperm Natural Winter		66	@ 67
Bleached Winter		71	@ 72
Natural Spring		60	@ 63
Bleached "		65	@ 67
Sea Elephant, Bleached Winter		55	@ 56
Unbleached Winter		50	@ 51
Lard, Prime City		63	@ 64
Prime, Western		62	@ 64
Extra No. 1		51	@ 52
No. 1		40	@ 43
No. 2		33	@ 35
Menhaden, Prime Crude		26	@ 28
Prime Southern		—	@ —
Brown Strained		28	@ 29
Light Strained		28	@ 29
Extra Bleached Winter		33	@ 34
Bleached Winter		31	@ 32
Bank		26	@ 27
Straits		27	@ 28
Oleo		8	@ 9½
Cod Domestic, prime		30	@ 33
Newfoundland		—	@ —
Black Fish, Crude		—	@ —
Natural		—	@ —
Bleached Winter		—	@ —
Degras, English		2¾	@ 3¼
French		—	@ —
Tallow Prime			@ 48
Neatsfoot, Prime		60	@ 75
No. 1		55	@ 60
No. 2		45	@ 50
Saponified Red		33	@ 34
Elaine Red		32	@ 34

Mineral Oils.

Paraffine Gas Oil	₩ gal	5½	@ 6
Paraffine, 22 gravity		18	@19
23½@24 gravity		11½	@12
25 gravity		10½	@11
28 gravity		8½	@ 9
Red Paraffine, 21@21½ gravity		15	@16
22½ "		12½	@13
High viscosity		18	@—
Neutral Filtered, 32 grav. bloomless		16	@20
extra cold test		22	@40
34 gravity, bloomless		15	@18
37 gravity, bloomless		14	@16
32 gravity, wool grade		9	@12
West Virginia, Natural, 29 gravity		17	@18
Franklin Natural, 32 gravity		—	@—
Smith's Ferry, 32@34 gravity		8½	@ 9
Black Reduced, 29 gravity, 25@30 c. t.		7½	@ 8
29 gravity, 15 cold test		8	@ 9
29 gravity zero		10	@11
Summer		7	@ 7½
Cylinder, Light Filtered		15	@20
Dark Filtered		13	@21
Extra cold test		—	@—
Dark Steam Refined		13	@18

Oil Cake

Calcutta Cake, City	₩ ton.	26 75	@ —
City domestic		$25 00	@ —
Western, in bags		25 00	@ —
Cottonseed cake at Memphis		18 00	@18 50
do do New Orleans		19 50	@21 50

Oil Meal.

State domestic meal	₩ ton	$26 25	@ —
Cottonseed meal at Memphis		16 00	@16 50
do do New Orleans		21 75	@ —

Wax, Candles, Lard, Tallow, Etc

Paraffine Wax, Crude, 124@126 m p	₩ lb	4½	@ 4¾
128@130 m. p		5	@ 5¼
Refined 136 m. p		10	@11½
Candles, Paraffine 4s and 6s		9½	@11½
12s		10	@12½
Adamantine 6s, 16 oz		—	@ 9
14 oz		—	@ 8
12 oz		—	@ 7
12s, 16 oz		—	@10
14 oz		—	@ 9
12 oz		—	@ 8
Patent Sperm, 4s and 6s		48	@49
Sperm, 4s and 6s		41	@42
Stearic Acid		11	@13
Spermaceti		37	@38
Lard		7 85@8 35	
Stearine		6	@ 8½
Tallow			@ 4¾

Naval Store

Sp tur'tine	—@ 30	I	1 60@—
Str'd rosin	@1 17½	K	1 65@1 70
G'd str'd	—@1 20	M	1 85
B	1 25 @—	N	2 00@—
F	1 30 @—	W G	2 70@—
G	1 40 @—	W W	@ —@10
M	1 47½		

Paints, Varnishes, Etc.

White Lead, Zinc Etc.

American Dry White Lead	₩ lb	6	@ 6½
Pure White Lead, in oil		6½	@ 7
English White Lead, in oil		8½	@ 8¾
Zinc White, Paris, G S, 50 bbls		7¾	less 4 ₩ ct
G S, 25 bbls		7¾	2 ₩ ct
G S, 10 bbls		7¾	1 ₩ ct
R S, 50 bbls		6½	4 ₩ ct
R S, 25 bbls		6½	2 ₩ ct
R S, 10 bbls		6½	1 ₩ ct
Antwerp R S, 50 bbls		6¾	4 ₩ ct
R S, 25 bbls		6¾	2 ₩ ct
R S, 10 bbls		6¾	1 ₩ ct
V M Co., grinding in poppy oil, Green Seal		10½	@10¾
Grinding in poppy oil, Red Seal		8¾	@ 9¼
French in Varnish		18	@20
American Extra Dry		4¼	@ 4½
Off color		4	@ 4¼
In oil		6¼	@ 6¾
In varnish		14	@18¾
L. Z. O. German Zinc		5½	@ 6
China White		10½	@12
Flake White		10½	@12
Cremnitz White		15	@20

Dry Colors.

REDS.

Carmine No. 40	₩ lb	3 15	@ 3 50
Crocus Martus, Imported		1½	@ 2½
Standard American		1½	@ 2½
Colcothar		3½	@ 6
Indian Red, American		3½	@ 6½
Standard American		2	@ 3
English		5½	@ 6
Tuscan Red, English		9½	@ 11
Turkey Red, English		9½	@ 14
Litharge, English Flake		9	@ 9½
American Powdered		6	@ 6¼
Red Lead, English		8½	@ 9
American		6½	@ 6¼
Orange Mineral, English		8½	@ —
French		8½	@ 9¾
German		8½	@ 9
American		8	@ 8½
Rose Pink, English		9	@ 9½
American		8	@ 8½
Vermilion, Imported English		82	@ 85
Am. Quicksilver, bulk		65	@ —
Am. Quicksilver, bags		—	@ 66
Chinese		—	@ 17½
Trieste		72	@ 77
American		10½	@ 11
Artificial		8	@ 25
Venetian Red, Cookson's		1 40	@1 45
H.R.Co's Diam'd M		1 45	@1 50
Diam'd H		1 10	@1 25
F V A		1 05	@1 20
L N & Co Diamond H		1 10	@1 20
H B		1 10	@1 20
Bell Brand			@1 45
B O W		—	@1 30
V V R		—	@1 60
Crown		1 40	@1 50
Lion		1 20	@1 25
Anchor H		1 10	@1 30
American		1 00	@1 30
Cutter		1 30	@1 35

YELLOWS.

Chrome Yellow		16	@ 25
Ocher, Rochelle		1 35	@1 50
Washed Dutch		5	@ 5
Washed French		2	@ —
Washed Nat Oxford, Lump		6½	@ 6¾
Washed Nat Oxford, Powd'r		7	@ 7½
Golden		3½	@ 4
Domestic		1¼	@ 1¾
Domestic, for O C & W P		½	@ 1

GREENS.

Chrome Chemically Pure		22	@26
Extra		12	@18
Super		9	@11¾
Common		—	@ 8
Paris, Pure		—	@—
In Pulp		11	@12
French Verdigris		40	@43

BLUES.

Chinese Blue		48½	@52
Prussian Blue,		20	@30
Soluble Blue		45	@55
Ultramarine Blue		7	@25
Celestial Blue		5½	@ 6
Blue Verditer		26	@30
Refiners'		60	@70

BROWNS.

Sienna, Italian, burnt & powdered		6	@ 6½
Burnt lumps		3	@ 3½
Raw powdered		6	@ 7
Raw lumps		3½	@ 4
American, burnt & powdered		1½	@ 1¾
American, raw		1½	@ 1¾
Umber, Turkey, burnt and powdered		3½	@ 4
Burnt lumps		2½	@ 3
Raw and powdered		3½	@ 4
Raw lumps		1½	@ 2½
American burnt		1½	@ 1¾
American, raw		1½	@ 1¾
VandykeBrown, English		6	@ 8
American		3	@ 3½
Spanish Brown		½	@ 1

Miscellaneous.

Barytes, Prime White	₩ ton.	16 00	@18 00
Foreign Floated		19 00	@21 00
Domestic Floated P&K		30 00	@32 00
Off color		12 00	@14 00
Chalk		2 75	@ —
Kiln Dried	₩ 100 lbs.	— 40	@ —
Air Dried		— 30	@ 35
China Clay	₩ ton.	13 00	@18 50
Cobalt oxide		2 30	@2 50
Feldspar	₩ ton.	15 00	@
Silex		14 00	@25 00
Whiting, Commercial	₩ 100 lbs	— 45	@ 50
Gilders'		— 60	@— 85
Paris White, English Cliffstone		1 05	@ 1 15
American		65	@— 80
French Talc		1	@ 1 ½
Terra Alba		— 75	@ 80
English Terra Alba		— 75	@ 80
Blanch Fix	₩ lb.	— 2½	@— 3
Dentists' Plaster	₩ bbl.	1 35	@ 1 50
Calcined Plaster	₩ bbl.	1 25	@ 1 50
Marble Dust	₩ bbl	90	@ 1 00
Pumice Stone, original cks	₩ lb.	1½	@— 1¾
Selected lumpsin bbls		2½	@— 2¾
Powdered Pure in bbls		1½	@ 2¼
Rotten Stone, original cks		4	@— 5
Selected lumps		5	@— 7
Powdered, in bbls		3½	@— 3½
Rubbing Stone		5	@— 7
Bronze Powder		—	@—
Brocades		45	@ 1
Smalt German Blue		15	@—
Super Black		1	@ 1
Putty in bulk		—	1¼@— 2½
In Bladders		—	2 @— 2½
In Tins		—	2½@— 3½

Glues.

Extra White	₩ lb.	18	@22
Medium White		14	@18
Cabinet		13	@16
Low grade		11	@13
Foot stock white		9½	@13½
brown		4	@ 8
Irish		12½	@14½
French		9½	@22½
English		10½	@15

Metallic Paints.

Brown	₩ ton.	$27 50	@32 50
Red	"	27 50	@32 50
Yellow	"	27 50	@32 50

Colors in Oil

Black Coach, Japan	₩ lb.	18½	@20
In Oil		12	@13
Drop Black		8½	@14½
Ivory Black		8½	@14½
Lamp Black		12	@20
Chinese Blue		35	@40
Prussian Blue		20	@45
Ultramarine Blue		12	@18
Burnt Sienna		7	@14
Raw Sienna		7	@14
Burnt Umber		7	@11
Raw Umber		7	@11
Vandyke Brown		7	@12½
Chrome Green		8	@14
Paris Green		16	@18½
English Drop Black		12½	@14
American Drop Black		7½	@10
Frankfort Drop Black		25	@30
Lampblack, Prime		27½	@33
Medium		19½	@26
2d quality		13	@19
Low grade		6½	@10
Naphtha, Black		60	@—
Fine Calcined Velvet Black		16	@25
Medium Calcined Velvet Black		12	@15

Varnish Gums.

Copal, Sierra Leone, cleaned		35	@ 40
Zanzibar, Bold white		72	@ 75
Medium white		62	@ 65
Bean & Pea		35	@ 40
Manila, Pale		17	@ 20
Bright amber		13	@ 15
Standard		10	@ 11½
Damar, Batavia		22	@ 23
Kauri, Standard		18	@ 20
No. 2		14	@ 16
Hard Scraped		—	@ 22
Light hard scraped		—	@ 27
Picture quality		65	@ 70
Pale and Fine Selected		42	@ 65
Sandrac		17½	@ 20
Asphaltum, Cuban, prime		5½	@ 6½
Cuban, sandy		4½	@ 5½
Egyptian		— 8	@ 9

Glass.

PLATE AND WINDOW.

FRENCH SINGLE.

Prices per Fifty Feet.

Sizes.	1st.	2d.	3d.	4th
6x 8 to 10x15	$10 50	$ 9 00	$ 8 50	$ 8 00
11x14 to 16x24	11 50	10 75	10 25	9 75
18x22 to 20x30	15 50	14 00	13 00	12 50
15x36 to 24x30	16 50	15 00	13 50	.....
26x28 to 24x36	17 75	16 2	14 75	.....
26x36 to 26x44	19 00	17 50	15 25	.....
26x46 to 30x50	21 00	19 50	17 00	.....
30x52 to 30x54	22 00	20 25	18 00	.....
30x56 to 34x56	23 00	21 25	19 00	.....
34x58 to 34x60	24 00	22 75	21 00	.....
36x60 to 40x60	26 50	24 50	23 00	.....

FRENCH DOUBLE.

Prices per Fifty Feet.

Sizes.	1st.	2d.	3d.	4th
6x 8 to 10x15	$13 00	$12 50	$12 00	$11 50
11x14 to 16x24	16 00	15 00	14 50	.....
18x22 to 20x30	20 50	19 50	18 50	.....
15x36 to 24x30	22 00	20 75	19 50	.....
26x28 to 24x36	25 00	23 00	21 50	.....
26x36 to 26x44	26 00	25 00	23 00	.....
26x46 to 30x50	28 00	26 50	24 50	.....
30x52 to 30x54	30 00	28 00	26 00	.....
30x56 to 34x56	31 00	30 00	28 00	.....
34x58 to 34x60	32 50	31 00	29 00	.....
36x60 to 40x60	36 00	33 50	32 00	.....

Discounts:—70 10 & 5 for S & D.

AMERICAN SINGLE.

Sizes.	1st.	2d.	3d.	4th.
6x 8 to 10x15	$10 50	$ 9 00	$ 8 50	$ 8 00
11x14 to 16x24	11 50	10 75	10 25	9 75
18x22 to 20x30	15 50	14 00	13 00	12 50
15x36 to 24x30	16 50	15 00	13 50	.....
26x28 to 24x36	17 75	16 25	14 75	.....
26x36 to 26x44	19 50	17 50	15 25	.....
26x46 to 30x50	21 00	19 50	17 00	.....
30x52 to 30x54	22 00	20 25	18 00	.....
30x56 to 34x56	23 00	21 25	19 00	.....
34x58 to 34x60	24 00	22 75	21 00	.....
36x60 to 40x60	26 50	24 50	23 00	.....

AMERICAN DOUBLE.

Sizes.	1st.	2d.	3d.	4th.
6x 8 to 10x15	$13 00	$12 50	$11 00	10 00
11x14 to 16x24	16 00	15 00	13 50	13 00
18x22 to 20x30	20 50	19 50	18 00	.....
15x36 to 24x30	22 00	20 75	18 75	.....
26x28 to 24x36	25 00	23 00	21 00	.....
26x36 to 26x44	26 00	25 00	23 50	.....
26x46 to 30x50	28 00	26 50	25 75	.....
30x52 to 30x54	30 00	28 00	27 00	.....
30x56 to 34x56	31 00	30 00	28 00	.....
34x58 to 34x60	32 50	31 00	30 00	.....
36x60 to 40x60	36 00	33 50	30 00	.....

Discounts:—75&5@75&10.

Drugs.

Opium.

Opium, in bond	₩ lb.	2 30	@2 50
duty paid (cases)		3 30	@3 50
as wanted		3 50	@3 60
powdered		5 00	@5 05
Morphine		2 60	@3 00
Foreign		2 42½	@2 75

Quinine

Quinine, American	₩ oz.	49	@ 56
English		—	@—
French		—	@—
German		4	@ 52
Cinchonidia, American		5	@ 5½
Foreign		4½	@ 5½
Quinidia German		16	@ 20

Miscellaneous.

Acid benzoic, German	₩ lb	42½	@55
English	₩ oz	12½	@ 13
boracic purified	₩ lb		@ 25
refined		17½	@ 18
flaky		17	@ 17½
Carbolic, pure crystals		33	@ 42
commercial		30	@ 33
Citric, Domestic		50	@ 51
Foreign		50	@ 51
Salicylic, bulk & boxes		1 62½	@ 1 70½
Alcohol, 94 p ct, Free	per gal.	2 16	@ 2 18
Refi'd wood, 95 p ct		—	@ 1 25
92 p ct		—	@ 1 20
Dia Methyl, 98 p ct		1 35	@ 1 60
Inodorine, 97-99 p ct		1 60	@ 1 70
Cologne spirits, 188 p t		2 24	@ 2 26
Ambergris Gray		32 00	@30 00
Black		9 00	@12 00
Ammonia Carb, Foreign		7½	@ 8
Domestic		8½	@ 8¾
Bay rum imp, bulk		1 95	@ 2 00
Barbadoes Tar		38	@ 40
Borax, Refined City, bbls	₩ lb	8½	@ 8½
Cal., bbls		7½	@ 8¼
Concentrated		7½	@ 7¾
Powdered		7½	@ 8
Bromine		87	@ 88
Burgundy Pitch		2½	@ 2¾
Cantharides, Russian		1 50	@ 1 70
Chinese		45	@ 65
Calomel, Domestic		73	@ 78
English		1 00	@1 10
Castile Soap, White		10¾	@ 11¼
Mottled ordinary		4½	@ 5½
pure		½	@ 6
Chian Turpentine	₩ oz	45	@ —
Chloroform		4	@ 5
Colocynth Apples, Trieste	₩ lb	47½	@ 50
pressed		—	@ —
Spanish		25	@ 26
Cacao Butter		40	@ 50
Chloral Hydrate, crystals		1 55	@
plates		1 55	@
Corrosive Sublimate		66	@ 68
Cuttlefish Bone, Trieste		22	@ 28
Dragon's blood mass		20	@ 22
" " reed		42	@ 45
Ergot, Spanish		52½	@ 57½
German		45	@ 50
Gelatine, English		50	@ 60
French		32	@
American		35	@ —
Glucose		3	@
Grape Sugar		3	@ 3¼
Glycerine, German, dms		21½	@ 22
H L & Co, bbls & cs		21½	@ 22
W J M G, bbls & cs		21½	@ 22
A. G. Co. C. P., bbls & cs		21½	@ 22
do do No 1, pure white		20½	@ 21½
M W & co. C P Bbls & cans		21½	@ 22
" " P W Bbls & cs		20½	@ 21½
C G Co., bbls & cs		21½	@ 22
M & R Bbls & cs		21½	@ 22
Glycerine, crude		18	@ 20
Guarana, Whole		1 12½	@ 1 15
Powdered		1 20	@ 1 25
Iceland Moss		4½	@ 5
Indian Hemp, (Canabis In)		10	@ 12
Insect Powder		47½	@ 55
B. W. B		—	@ —
Irish Moss		5	@ 1
Isinglass, Russian		3 75	@ 4 00
American ordinary		75	@
prime		90	@ 1 0
Iodine, re-sublimed		3 50	@ 3 55
Licorice Corigliana		29	@ 30
Guzzolini		26	@ —
Guis Grasso		24	@ 26
"P. & S."		26	@ 29
Domestic		20	@
Paste		13	@
Lupulin, American	₩ lb	70	@
German		50	@
Lycopodium, prime		39	@ 41
Manna, Large Flake		75	@ 80
Small Flake		45	@ 47
Sorts		40	@ 42½
Menthol		2 00	@ 2 50
Musk, True Grain	₩ oz	15 00	@40 00
Tonquin Pods		8 50	@26 00
Canton Grains		20	@ 1 00
Nitrate Barium	₩ lb	8½	@ 9
Strontia	₩ lb	10	@ 11
Nux Vomica, pockets	₩ lb	8	@
Oil, Almond, Sweet		30	@ 37
Myrbane, American		17	@ 19
English		17	@ 19
German		—	@ —
Sesame	₩ bbl	65	@ 75
Castor City, bbls & cases		14	@ 15
Cod Liver Norwegian	₩ bbls	00	@30 00
New		65	@ 70
Phosphorus	₩ lb	70	@ 75
Precip. Red		83	@ 88
White		88	@ 90
Precipitated Chalk, Eng. bk		5	@ 6
bdls		7	@ 7
Potassium, Bromide, bulk		34	@ 35
glass		43	@ 43
Iodide, bulk		2 70	@ 2 75
glass		2 78	@ 2 85
Quicksilver		63	@ 65
Sago, Pearl		3	@ 3½
Flour		3½	@ 3¾
Sugar of Milk, Cob		18	@ 20
Powdered		19	@ 21
Sulphur, Roll			@ 1¾
Flour			@ 2
Salicine		4 00	@ 4 25
Tamarinds	₩ kg	1 80	@ 1 75
Venice Turpentine	₩ lb	18	@ 20
Wax, Brown Southern		26	@ 27
State		26	@ 28
Brazil		12	@ 13
White, pure		40	@ 45
Japan		11½	@ 13
Carnauba		11	@ 14
Ceresin		13	@ 14

Balsams.

Copaiba, Angostura	₩ lb	65	@—
Para		62½	@—
Central American		57½	@—
Fir, Canada	₩ gal	3 35	@3
Oregon		1 50	@
Peru	₩ lb	1 10	@1 12
Tolu		90	@

Barks

Angostura	℔	—	—
Bayberry		7 @	8
Buckthorn		4 @	5
Cascarilla		6½@	8½
Canella		12 @	12½
Cinchona, Red		20 @	1 45
Yellow		12 @	1 25
Coto		— @	75½
Elm, common		9 @	10
selected		12 @	14
Loxa		30 @	32
Oak, White		2½@	4
Red		3½@	4
Orange Peel, West Indian		4 @	6
Malaga, prime		7 @	10
Curacoa		7½@	15
Prickly Ash		12 @	15
Pomegranate (of root)		15½@	17
Quebrache		15 @	20
Sassafras		6 @	6½
Simaruba		30 @	40
Soap, Whole		5½@	6
Crushed		6½@	6¾

Beans.

Vanilla, Mexican	℔	4 00 @	12 00
Bourbon		2 50 @	8 00
Tonka Angostura		1 25 @	1 35
Surinams		65 @	75
Para		40 @	45
Calabar		35 @	50
St. Ignatius		50 @	55

Berries.

Cubeb	℔	1 50 @	1 75
Juniper		7 @	8
Fish (Cocculus Ind)		4 @	4½
Laurel		5 @	—
Prickly Ash		20 @	—

Essential Oils.

Anise	℔	1 62½@	1 65
Almond (bitter)		2 50 @	6 75
Bay, ℔ bottle of 22 ozs		5 00 @	6 50
Bay Oil, per lb		3 62½@	4 73
Bergamot		2 60 @	3 00
Black Pepper		65 @	5 50
Caleput		65 @	70
Camphor		9½@	12
Caraway, Seed		1 25 @	1 80
Chaff		50 @	62½
Cassia		75 @	77½
Citronella		33 @	35
Clove		1 60 @	1 70
Copaiba		75 @	78
Croton		95 @	1 00
Cubebs		13 00 @	14 00
Cumin, American		3 50 @	5 50
Fennel		85 @	—
Seed		1 50 @	—
Geranium, Turkish		3 00 @	3 50
Rose, French		7 75 @	12 00
Gingergrass		2 25 @	—
Juniper, once rect		— @	1 00
Twice rect		1 50 @	2 00
Wood		27 @	37
Lavender, Garden		50 @	75
Flowers		1 75 @	1 85
Flowers, Charras		1 60 @	1 90
Lemon		1 35 @	1 70
Lemongrass		70 @	75
Neroli, Bigarade		45 00 @	—
Portugal		27 50 @	—
Petale		50 00 @	—
Nutmeg		2 00 @	2 25
Orange, Sweet		1 15 @	1 60
Bitter		1 65 @	4 00
Origanum		18 @	25
Charras		30 @	44
Peppermint, tin cans		1 75 @	2 15
cases		2 40 @	2 50
A. M. T. crystal white		2 70 @	3 00
Pennyroyal		75 @	80
Rose,		4 65 @	4 75
Ibmsen's	℔ oz	5 00 @	5 25
Holstein s		4 75 @	5 00
Rosemary, Trieste	℔	47½@	—
French,		— @	35
Flowers		70 @	1 10
Flowers, Charras		80 @	1 10
Sandalwood		2 25 @	10 50
Sassafras		49 @	52
Spearmint		2 50 @	3 00
Tansy		2 25 @	2 50
Thyme, Red		21 @	82½
White		30 @	1 10
Wintergreen		1 70 @	1 80
Wormseed		1 50 @	—
Wormwood		4 50 @	5 00

Flowers.

Arnica	℔	7 @	8
Chamomile, German		17 @	25
Roman (new)		31 @	5
Insect		45 @	57½
Lavender		3 @	3¾
Rosemary		15 @	20
Saffron, American		17 @	18
Alicante,	8 00	@ 8	50
Valencia	14 00	@ 14	50

Gums.

Aloes, Cape	℔	5½@	7
Barbadoes		19 @	25
Curacoa		4 @	4½
Socotrine		40 @	52
Arabic, 1st picked		82½@	95
2d picked		8½@	85
3d picked		72½@	75
4th picked		62½@	65
5th picked		52½@	55
6th picked		34 @	35
Sorts		50 @	70
Siftings		23 @	40
Senegal		34 @	48
Asafœtida		10 @	11
Benzoin		30 @	45
Camphor, refined, in bbls		26 @	26½
In cases		27 @	27½
Chicle		27½@	30
Euphorbium		15 @	17
Gamboge, pipe and block		65 @	75
Gedda, Siftings		— @	—
Sorts		— @	23½
Guaiac		18 @	25
Kino		11 @	12
Mastic		99 @	1 00
Myrrh		22 @	35
Olibanum, Tears		16 @	10
Sorts		6½@	7½
Sandrac		24 @	28
Scammony, Aleppo		25 @	3 75
Virgin		7 50 @	—
Tragacanth, Alleppo, 1st flake		47 @	49
2d flake		42 @	44
3d flake		— @	40
Turkey, 1st flake		75 @	80
2d flake		57½@	60
3d flake		45 @	47½

Herbs and Leaves.

Aconite	℔	9 @	11
Althea		8 @	10
Belladonna		14 @	1
Buchu, Short		6½@	8
Long		20 @	25
Coca		25 @	32
Damiana		25 @	28
Digitalis		6 @	9
Eucalyptus		4 @	5½
Grindelia Robusta		12 @	14
Henbane, (Hyosciamus)		12 @	14
Horehound		6 @	8
Jaborandi		25 @	27
Laurel		3½@	4
Lobelia		4 @	7
Mango		20 @	22
Marjoram, German		14 @	20
French		9 @	11
Prince's Pine		— @	8
Rose, Red		80 @	1 06
Pale		40 @	55
Rosemary		3 @	4
Sage, Italian		3 @	3½
Senna, Alex. Nat		24 @	25
Siftings		19 @	21
Garbled and sifted		34 @	35
Tinnivelly		10 @	20
Thyme		4½@	10
Uva Ursi		4 @	4½
Yerba Santa		12 @	14

Roots.

Aconite	℔	10 @	12
Alkanet		8 @	10
Althea, Whole		12 @	12½
Cut		16 @	—
Angelica, German		10 @	12
American		9 @	10
Arrowroot, Bermuda		31 @	35
St. Vincent, bbls & cans		9 @	11
Jamaica		10 @	11
Arnica		— @	12½
Belladonna		13 @	14
Blood		10 @	12
Burdock		7½@	8
Calamus, Bleached		— @	40
Unble'd, split & peeled		19 @	24
Canada Snake select		34 @	38
Colchicum		— @	10
Colombo		8 @	11
Culvers		15 @	16
Dandelion, German		10 @	12
American cut		11 @	12
Elecampane		6 @	8
Galangal		4 @	4½
Gentian		4½@	4½
Ginseng		1 75 @	1 85
Ginger, Jamaica, Unbleached		10 @	12
American, Bleached		14 @	15
London Bleached		14½@	15
Golden Seal		— @	40
Hellebore, White, powdered		— @	9½
Whole		5 @	7
Ipecac, Rio		1 90 @	2 00
Jalap		11 @	13
Kava Kava		28 @	30
Lady Slipper		13 @	15
Lovage, American		40 @	50
German		9 @	20
Licorice, ordinary		5 @	7
selected, in bdls		12½@	20
Mandrake		— @	5
Orris, Florentine		11 @	15
Finger		48 @	75
Verona		6 @	7½
Pareira Brava		25 @	—
Pellitory		16 @	18
Pink		42 @	45
Rhatany		5 @	8
Rhubarb, Whole		17½@	60
Cut		60 @	1 50
Sarsaparilla, Honduras		22 @	30
Mexican		7½@	7¾
American		6 @	—
Senega Southern		46 @	48
Western		44 @	46
Serpentaria, Texas		24 @	25
Stillingia		8 @	10
Squills, ordinary		— @	9
white, prime		8 @	9
Valerian German		10 @	11
Belgian		8 @	10
English		— @	17
Vermont		10 @	11
Yellow Dock		7 @	9

Seeds.

Anise, Italian	℔	9 @	10
German		— @	—
Star		21 @	24
Canary, Sicily		3½@	3½
Smyrna		2½@	2½
Spanish		3½@	3½
Caraway, Dutch		7 @	7½
German		— @	—
Cardamom, Alleppy		45 @	80
Malabar		65 @	85
Mangalore		60 @	1 50
Celery		8½@	9½
Colchicum		45 @	50
Clover		9 @	11
Coriander, English		4 @	5
French		— @	—
German		5 @	5½
Cummin		12½@	13
Fennel, German		8 @	10
Fœnugreek		2½@	2¾
Guinea Grains		7 @	7½
Hemp, Russian		2½@	2¾
Smyrna		— @	—
Lobelia		25 @	30
Millet, Domestic	℔ bush	1 10 @	—
Foreign	℔	1½@	—
Mustard, California yellow		4½@	4¾
Dutch		5½@	6
English		5½@	6
Trieste brown		7 @	8
Poppy		6½@	9
Quince, German		55 @	60
Russian		28 @	30
Rape, Domestic		2½@	3
English		4 @	3½
German		3½@	3½
Timothy		2½@	3½

Shellac

D. C.	℔	22 @	23
Octagon B		17 @	18
V. S. O.		16½@	17½
Diamond I		17 @	—
S. S.		15 @	16
Garnet, A. C		10 @	12
T N Quality		12 @	12
Button		16 @	—
Bleached		19 @	20

Spices.

Cassia, Batavia	℔	6½@	7
China		— @	5
Saigon, rolls		33 @	36
broken		28 @	30
chips		7 @	10
Buds		10½@	10½
Cloves, Prime, Zanzibar		21 @	22½
Amboyna		25 @	26
Stems		4½@	4½
Ginger, African		4½@	5
Calcutta		3½@	3½
Cochin		7 @	11
Mace, Batavia		60 @	63
Banda		63 @	65
Penang		63 @	65
Nutmegs, 110s		55 @	56
Pepper, Singapore		16½@	16
West Coast		14½@	15
Acheen, prime		13 @	14
Penang, white		— @	21
Singapore, white		— @	24
Red, Zanzibar		7½@	8
Bombay		— @	5½
Pimento, Prime		— @	5½

Chemicals.

Heavy Chemicals.

Alkali, 58 ℔ cent	1 10	@1	15
Refined, high test	1 15	@1	25
Bleach, over 30 ℔ cent	1 82½	@1	90
Salt cake	50	@	57½
Soda ash, Carb, 48 ℔ cent	1 22½	@1	25
High test	1 12½	@1	15
Caustic, 48 ℔ cent	1 22½	@1	35
High test	1 12½	@1	15
Newcastle, 48 ℔ cent	1 25	@1	35
High test	1 15	@1	17¼
Bicarb, English	3 10	@3	35
American	3 00	@3	50
Carbonate	1 75	@1	80
Caustic, 60 ℔ cent	2 45	@3	50
70 ℔ cent	2 20	@2	30
74 ℔ cent	2 20	@2	30
76 ℔ cent	2 35	@2	40
Sal, English	90	@1	05
American	1 00	@1	20

Acids.

Acid, Acetic		2½@	2¾
Chemically pure		16 @	17
Pure		5½@	8½
Oxalic		7 @	7½
Sulphuric, 60 deg		90 @	95
66 deg		95 @1	20
Muriatic, 18 deg	1 15	@1	/
20 deg	1 30	@1	50
22 deg	1 40	@1	80
Nitric, 36 deg		4 @	5½
38 deg		4½@	6
40 deg		5 @	6½
42 deg		5½@	7
Tartaric, Crystals		43 @	44
Powdered		44 @	45

Ammonias, Potashes and Fertilizing Chemicals.

Ashes, Pot, 1st sorts	℔	4 @	4¼
Pearl		5 @	5¼
Potash, Chlorate, English		15½@	16½
Powdered		15½@	16¼
Carb	4 70	@	5¼
Caustic		7¾@	8
Cyandide, fused		39 @	40
Sulphate of Potash	1 07½	@1	10
Aqua Ammonia (in obys) 16 deg.	℔	3½@	3¾
18 deg		@	4¾
20 deg		@	6
22 deg	6	@	7
26 deg	10	@	11
Ammonia, Muriate		6½@	8
Sal		8 @	8½
Sulphate	3 05	@	3 10
AMMONIATES, ETC:			
Azotine, per unit	2 20	@	2 25
Blood, Dried, Red, ℔ unit	2 25	@	2 30
Black, ℔ unit	2 15	@	2 20
Bones, Rough, ℔ ton	16 00	@20	00
Ground, ℔ ton	20 00	@25	00
Bone Black, refuse, ℔ ton	16 50	@17	00
Kieserite	5 50	@	5 75
Menhaden Guano	25 00	@28	00
Grand Caymans Phosphate Guano, per unit	—	@	—
Phosphate Rock, f. o. b. Charleston	5 75	@	6 00
Phosphate Rock, f. o. b. New York	—	@	7 00
Phosphate Rock, ground	9 00	@	9 50
Acid Phosphate	12 00	@15	00
Potash Muriate	℔ 100 lbs.	1 72½@	1 77½
Kainit	℔ ton	8 75 @11	00

Miscellaneous.

Acetate of Lime, American, Gray	2 37½@	2	40
American, Brown	1 65@	1	70
Alum, Lump	1¾@	1¾	
Ground	1¾@	2	
Cake	1¾@	1¾	
Argols, Crude Oporto	— @	—	
Plate	23 @	24	
Half Refined	28 @	32	
Arsenic, White	2¾@	3½	
Red	6½@	6¾	
Brimstone Crude, best 2ds	20 00@	21	50
best 3ds	19 25@	19	50
Copperas, Ordinary	65 @	1	00
Best grades	1 20 @	1	30
Powdered	1½@	1¾	
Cream Tartar, French, in bond	— @	—	
American, 99 p. c.	32 @	32½	
Powdered, 99 p. c.	33¼@	33½	
Glauber Salts	75 @	80	
Epsom Salts	1 15 @	1	20
Nitrate of Lead	9 @	10	
Soda	1 90@	2	20
Rochelle Salts	30½@	31½	
Sugar Lead, Brown	7½@	8	
White	13 @	13½	
Liquor, White	@	—	
Saltpeter, Crude	5 @	5½	
Refined	6 @	8	
Vitriol, Blue Ordinary	4¾@	5	
Extra	5½@	5½	
Stannate of Soda, 50% soluble	@	18	
40% soluble	— @	12	
25% soluble	— @	9	
20% soluble	— @	8	
Tin Crystals	26 @	28	
Turmeric root Alleppy	3½@	3¾	
Bengal	— @	—	
Cornriga	3 @	3½	
powdered	5½@	6	
Ultramarine, Imported	20 @	80	
American	5 @	16	
Vanadiate, Ammonium	2 75 @	2	85
Woad, English	9 @	10	
COAL TAR COLORS			
Alizarine	19 @	20	
Aniline Oil	20 @	25	
Salt, crystals	16 @	18	
cake	20 @	21	
Bismarck brown	80 @	1	20
Eosine	2 40 @	3	00
Fast red	50 @	65	
Fast yellow—acid	75 @	1	50
Fuchsine crystals	1 25 @	1	75
Hoffmann's violet—3B	1 75 @	2	50
Methylene blues	4 50 @	6	75
Methyl violets—2R	1 50 @	2	00
2B	1 50 @	2	00
B	1 50 @	2	00
Nicholson (alkali) blue—3B	2 25 @	3	00
5B	3 75 @	4	00
Red shade	2 00 @	2	25
Nigrosine	1 35 @	2	00
Orange A—II	40 @	65	
Safranine	1 75 @	2	25
Scarlet R	45 @	55	
RR	50 @	65	
RRR	70 @	75	
Soluble blue—Green shade	2 00 @	3	50

These prices are for colors of standard purity in original packages. Reduced colors can be obtained at irregular and very much reduced figures.

CHIPPED DYEWOODS, ETC			
Barwood	℔	1¼@	2¼
Camwood		4½@	8
Fustic, com		1½@	1¾
Cuban		1½@	1¾
Green Ebony		3½@	4
Hypernic		3½@	4½
Logwood Campeachy		1¾@	2¼
Laguna		2 @	2½
Nicwood		2 @	8
Peachwood		3½@	3½
Quercitron		1½@	
Redwood		2 @	3
Red Sanders		— @	3
EXTRACTS:			
Archil	℔ lb		33½
Concentrated		21	—
Black Oak		3½@	23½
Barberry, French		26 @	30
Chestnut		5½@	—
Chestnut Oak		3½@	
Refi'd Sedementless Hemlock		4½@	6
Prime Hemlock		3½@	4+
Fustic, solid		10½@	—
liquid, 51 deg		8 @	—
Indigo Extract		7½@	
Logwood, solid		— @	10
liquid, 51 deg		— @	6½
42 deg		— @	6½
Madder		8½@	7½
Persian Berries, French		℔ @	

COMPARATIVE PRICES.

	1897	1886	1885
CHEMICALS.			
Bleaching Powder	1 95	1 60	1 45
Caustic soda, 70 p. c	2 40	2 45	2 55
Caustic soda, 60 p. c	2 55	2 67	2 85
Sal soda	80	92	1 00
Soda ash 48 p.c. carb	1 25	1 40	1 40
Soda ash 48 p.c. caustic	1 20	1 32	1 30
Soda ash 48-58 p.c. N C	1 15	1 27½	1 30
Soda alkali 58 p.c. B M	1 20	1 37½	1 35
Soda Nitrate	2 15	2 55	2 15
Brimstone	$20 25	$22 75	$25 00
Cream tartar	34¼	34¼	33
Muriate of potash	1 70	1 75	1 80
Chlorate of potash	16	16½	15¼
Kainit	$7 75	$7 75	$6 75
PAINTS.			
White lead in oil	5 83	7	5¾
Litharge	5½	5½	5¼
Paris green	17	15	16¼
Orange mineral	7¾	8½	7¾
Ven. red, English	1 40	1 40	1 35
Ven. red, American	1 00	1 00	1 12½
Barytes	16 00	18 00	17 00
Whiting, com'l	35	37½	40
DRUGS.			
Opium	$4 70	3 15	$3 85
Morphine (dom)	2 60	2 20	3 20
Quinine, German	47	70	82½
Quinine (dom)	57	70	98
Cinchonidia (dom)	8	16	28
Alcohol	2 18	2 13	2 19
Borax, City	6½	7¾	8¾
Beans, tonka (Ang)	1 30	1 68	95
Cubebs	1 50	70	55
Cuttlefish	17½	13½	14
Glycerine (Am)	19½	15½	18
Oil, castor (City) cs	17	17	17
Oil, codliver, Nor	30 00	30 00	45 00
Quicksilver	53	42	46½
Oil, bergamot	1 40	2 25	1 50
Oil, cassia	80	80	85
Oil, cubebs	11 00	7 15	6 50
Oil, lemon	1 15	2 00	85
Oil, peppermint (tins)	3 00	4 20	4 35
Oil, sassafras	37	38	40
Aloes, cape	5¾	7	10
Asafœtida	9	11½	16
Gum arabic, 1st picked	92½	71	46
Gum arabic, sorts	57½	40	24
Camphor (bbls)	22½	23	17¼
Shellac, D C	19	19½	21
Senna, Alex Nat'l	32½	20	11
Gentian root	4½	4¼	5½
Ipecac	1 40	82½	75
Canaryseed, Smyrna	3	2½	2½
Caraway seed, Dutch	8½	10½	11½
Coriander, English	4½	5½	7
Hempseed	1½	3	3½
Mustardseed, Cal. yel	3¼	5½	4¼
Mustards'd, Trieste, br	5½	5½	4¼
Rapeseed, English	3½	3½	4¼
Rapeseed, German	3½	3½	3¾
OILS			
Linseed, (dom)	45	44	53
Cottonseed, prime S Y	32	31	41
Olive, Sicily	72	76	84
Palm, prime	5	6	6½
Cocoanut, Ceylon	6	5¾	6¾
Lard, prime city	59	52½	59
Menhaden, prime crude	32	28	31
Whale, bleached winter	40	47½	61
Sperm, bleached winter	76	94	1 07
Paraffine, 25 gravity	8	10¾	11
Neutral, 34 gr. b'less	12	18	18
Black, 29 gr. 15 deg	7¾	9	9
Cylinder, 600 deg	15	18	20
Oil cake, western	24 75	27 25	30 00
Spirits turpentine	38½	47	21
DYESTUFFS.			
Cochineal, Teneriffe S	30	33	32½
Cutch	7¾	8¾	5½
Gambier	5	5	4¾
Indigo, Bengal h grade	1 25	1 50	1 40
Bichromate potash	9½	9¾	10¼
Prussiate potash, yel	18½	21	21½
Sumac, Sicily prime	70 00	82 50	92 50
Starch, West'n corn bls	2¾	2¾	2¾

Dyestuffs.

Acid Picric best crystal	℔	50 @	55
Albumen prime egg		60 @	65
imported blood		15½@	16
domestic blood		— @	15½
No. 1½ blood		14½@	15½
Alizarine ass't		10 @	20
Annatto		12 @	25
seed		10 @	18
Archil Weed		7 @	15
Aurine		88 @	
Barbary Root, cut		4 @	
Bichromate of Potash, Scotch		10½@	11
American		10½@	11
Bichromate of soda		8½@	
Carmine of Indigo		40 @	
Cochineal, Teneriffe Silver		30 @	32
Black		30 @	32
Gray black		35 @	37
Mexican		— @	
Ammoniac		— @	37
Cudbear, French		12 @	—
Concentrated		25 @	
English		12 @	30
Cutch slab		— @	—
bag		7¼@	7¾
Dextrine		5½@	6
Divi Divi	℔ ton	60 00 @	70 00
Fuller's Earth, lump	℔ lb	90 @	95
powdered		1¾@	2
Flavine		21 @	23
Fustic stick	℔ ton	20 00 @	25 00
Gambier	℔ lb	5½@	6¾
Garancine		5½@	9
Indigo, Bengal, low grade		95 @	1 00
medium		1 10 @	1 25
high grade		1 25 @	1 40
Caracas		— @	—
Kurpahs		75 @	1 05
Guatemala		72½@	80
Manila		70 @	75
Madras		65 @	85
Indigotine		3 00 @	4 00
Lac Dye		9 @	1b
Logwood stick	℔ ton	25 00 @	35 00
Madder, Dutch	℔ lb	7½@	8
French		5 @	7
Myrabolans		2 @	2½
Muriate of Tin		10 @	15
Nitrate of Iron, commercial		3 @	3
true		5 @	6
Nutgalls, Blue Aleppo		14½@	15½
Chinese		15½@	16½
Oxymuriate of Antimony		4 @	6
Persian Berries		21 @	26
Prussiate of Potash, Am. Yellow		— @	19
Red		42 @	45
Scotch, Yel.		19½@	20
Red		42 @	45
Prussiate of soda		17½@	18
Phosphate of soda		7 @	8
Safflower		— @	—
Sago Flour		3½@	3¾
Salts of Tartar		6½@	7
Soluble oil		— @	6
Sumac, Sicily prime	℔ ton	68 00 @	72 00
Virginia		45 00 @	52 00
Starch, Corn	℔ lb	2½@	2¾
Potato		4½@	4¾
Wheat		5½@	6

PURE ALKALI.

Manufactured by the Ammonia Process

BY

TRADE B.M&C°. MARK.

Brunner, Mond & Co.

LIMITED.

NORTHWICH, ENGLAND.

TRADE B.M&C°. MARK.

THIS ALKALI contains 58⁵⁰ deg. Alkametrical Test and is the most Economical form of Soda known for the manufacture of **Glass, Soap, Paper, Wood Pulp Starch or Colors.** And for **Cleaning Wool and Bleaching.** In fact, for any purpose where **Soda in its purest form** is required.

Its strength is uniform, and quality always the same.

The following is the Chemical Analysis of this Alkali:

Carbonate of Soda,	**98.72**	**per cent.**
Sulphate of Soda,	**0.20**	"
Chloride of Sodium,	**0.54**	"
Carbonate of Lime,	**0.13**	"
Carbonate of Magnesia,	**0.04**	"
Peroxide of Iron,	**0.01**	"
Alumina,	**0.01**	"
Silica,	**0.09**	"
Moisture,	**0.26**	"
Total.	**100.00**	

We are in constant receipt of **BRUNNER, MOND & CO.'S** manufacture at **New York. Boston, Baltimore and New Orleans.**

We have appointed as Exclusive Sales Agent for their district,

LINDER & MEYER, Boston, for New England States.

We are prepared to make forward contracts for delivery monthly.

WING & EVANS,

92 WILLIAM STREET, NEW YORK.

SOLE AGENTS FOR THE UNITED STATES.

Herf & Frerichs Chemical Co

Manufacturing Chemists,

St. Louis, Mo.

MANUFACTURERS OF

Acetic Acid, all kinds, Subnitrate Bismuth, C. P. Acids,

IODOFORM, Powdered,

Sulphate Zinc, Crystals, Iodine Resublimed, Iodide Potash, Granular.

NITROUS ETHER, Concentrated,

Cyanide of Potassium, All kinds of Ether, Bromide of Ammonium,

SULPHURIC ETHER,

Sulphite of Sodium, Mercurial Ointment, Chloride Gold,

AND A GENERAL ASSORTMENT OF

Pharmaceutical, Photographic & Technical Chemicals.

HOLLINGSWORTH & PETERSON,

Brokers in Chemicals, 49 North Front St., Philadelphia

Representing WING & EVANS, of New York, for the sale of

PURE ALKALI, 48 & 58 per cent.

MANUFACTURED BY

BRUNNER MOND & CO., England. SOLVAY PROCESS CO., Syracuse, N. Y.

Jarrow Chemical Company,

NEWCASTLE ON TYNE.

Bleaching Powder, Caustic Soda, Sal Soda

Carb Soda Crystals, Soda Ash, all tests, Bi-Carb Soda.

Edward Hill's Son & Co., Agents,

25 & 27 CEDAR STREET, NEW YORK.

G. H. NICHOLS & CO.,

MANUFACTURING CHEMISTS

41 CEDAR ST., NEW YORK.

Oil Vitriol, Muriatic Acid,

Sulphuric Acid, 98 per cent.

Alum, Sulphate of Soda.

Our Refined Oil Vitriol is the purest Commercial Acid made in the World.

LAUREL HILL CHEMICAL WORKS, Laurel Hill, L. I.

CAPELTON CHEMICAL WORKS, Capelton, P. Q., Canada.

PHENIX CHEMICAL WORKS,

Oil Vitriol, Muriatic Acid,

ACETIC ACID,

Copperas, Sulphate Soda,

NITRIC ACID, AQUA FORTIS, MURIATE TIN, &c.

GRIDLEY & CO., Agents,

87 MAIDEN LANE, NEW YORK.

Brooklyn Sulphur Works,

FLOUR SULPHUR DOUBLE REFINED SUBLIMED BROOKLYN SULPHUR WORKS OFFICE 163 FRONT ST. NEW YORK.

MANUFACTURERS OF

Virgin Rock and Roll

BRIMSTONE

AND FLOUR SULPHUR,

Battelle & Renwick,

163 FRONT STREET, NEW YORK.

PURE ALKALI.

Manufactured by the Ammonia Process.

This Alkali contains 58 per cent. of Alkali or nearly 99 per cent. of Carbonate of Soda. It is the most economical form of Soda for Manufacturers of Soap, Glass, Paper, Wood Pulp and Colors, and for Printers and Bleachers.

CRESCENT BRAND TRADE B.M.&Co. MARK. TRADE MARK

MANUFATURED BY

BRUNNER, MOND & CO.,

LIMITED,

NORTHWICH, ENGLAND.

AND

SOLVAY PROCESS CO.,

SYRACUSE, NEW YORK.

CRESCENT BRAND TRADE B.M.&Co. MARK.

THE SOLVAY PROCESS CO. will make by this same process an Alkali adapted for Window Glass Makers testing 48 per cent.

WING & EVANS,

92 WILLIAM STREET, NEW YORK

Sole Agents for the United States.

WING & EVANS have appointed as exclusive Sale Agents LINDER & MEYER, BOSTON, for New England States who are prepared to contract for future delivery.

CHEMICAL MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on page 50.

TUESDAY EVENING, March 13, 1888.

The worst storm ever experienced in this vicinity struck New York about midnight on Monday, and continued with unabated vigor throughout the following twenty-four hours. Business was brought to a complete standstill, offices and counting rooms were deserted, and the searcher after information could find none who could impart anything like news, the effects of the great storm being the only topic of conversation wherever merchant or clerk was met. During the earlier part of the week business was confined to very moderate limits. Buyers, as heretofore, made purchases only in accordance with actual requirements, and prices for the most part were nominal and unchanged. Reports by mail from Liverpool to the 2d inst. were an inactive market in most lines. Messrs. Joseph P. Brunner & Co. wrote as follows: "Soda ash still firm owing to scarcity and we quote: Caustic ash 48 per cent 31-32@1d, high test 31-32@1d. Carb ash 48 per cent 1@1 1-32d, high test 31-32@1d. Soda crystals in good request and several makers here advanced their prices to £2 15s, but there are still sellers at 2s 6d less money. Caustic Soda—A fair number of orders have been placed this week but prices are easy and incline downwards. The sales include 60 per cent at £5 16s 3d up to £8, the latter figure for special makes; 70 per cent £6 15s@7, 74 per cent £7 6s 3d and 76 per cent £8 5s. Bleaching powder is only wanted to a very limited extent and £7 13s 6d is nearest value. Chlorate of potash demoralized and 5¾@6d nominal quotations, but the lower figure has been shaded. Bicarbonate of soda dull at £4 17s 6d@5 2s 6d."

Heavy Chemicals.

Carbonated soda ash, 48 per cent, of Liverpool make has remained quiet throughout the week. We heard of but a few jobbing sales large buyers taking no interest in the market apparently. Prices are unchanged but somewhat nominal at 1 25@1 27½ spot or to arrive according to quantity and seller. High test is without animation and prices remain nominally 1 12½@1 15c as to brand and size of order.

Liverpool caustic soda ash 48 per cent is not selling to any extent, buyers showing no disposition to take more than sufficient to supply their current necessities, and these at the moment are light. There has been no change in prices the nominal quotations remaining 1 27½@1 30c on the spot and 1 22½@1 25c for lots to arrive according to brand and quantity. High test is dull and unchanged at 1 12½@1 15c according to holder and quantity.

Newcastle soda ash is still scarce on the spot, and with little offering to arrive prices are firmly maintained. The demand, however, is light, and principally for small quantities to supply the pressing needs of consumers. We note a few small sales on the spot at 1 30@1 35c, as to quantity. For lots to arrive the nominal quotations are 1 30c. High test is dull and nominal.

Caustic soda is without animation, the only business in progress being of a light jobbing character. Prices are unchanged, but are more or less nominal. For 60 per cent we quote 2 45@2 50c, as to quantity and position, but a large buyer might do better. For 70 and 74 per cent the nominal quotations are 2 20@2 25c, according to holder and quantity.

Sal soda is without special feature of interest. Buyers are supplying their wants as they occur, but as they are not in urgent need of supplies business is slow. The market is steady, and prices are unchanged.

Bleaching powder is not wanted except to supply small current requirements, and prices are therefore almost entirely nominal at 1 82½@1 85c for lots to arrive and 1 85@1 90c on the spot.

Acids.

Acetic acid is without change; competition between brands is still active and prices are irregular. The demand is only moderate. Quotations range from 2¼@2½c, according to brand and quantity.

Oxalic acid is selling to a moderate extent at the combination prices. These are 7c for lots of 10 tons or over for future delivery and 7¼c for smaller quantities on the spot.

Sulphuric acid is moving fairly in accordance with the requirements of consumption. There has however been no special activity. Prices remain steady at 90@95c for large lots of 66-degree and 1@1 20c for the smaller quantities, according to seller and size of order.

Muriatic and nitric acid are selling quite freely in a jobbing way, but we hear of no large transactions. Prices are without quotable change, and may be written steady.

Miscellaneous.

Acetate of lime is in fair jobbing request, but buyers show no disposition to anticipate their requirements. Prices are without change and we continue to quote 2 37½@2 40c for gray and 1 65@1 70c for brown, as to quantity.

Arsenic remains very firm under small offerings. There is a good jobbing demand but we hear of no important transactions. We repeat our quotations of 3@3½c on the spot according to quantity and 2¾@3c for lots to arrive according to date of shipment.

Brimstone is dull and we find nothing of interest to report. Spot prices for best seconds remain $21@21 50 while shipments are quoted at $1 per ton less. Thirds are nominally held at $20 25@20 50 on the spot and $19 25@19 50 for shipment.

Blue vitrol is firmer owing to reduced production. There has been a fairly active demand with reported sales aggregating 500 bbls at 4¾@5c, the closing quotations being 5¼@5c according to brand and quantity.

Nitrate of soda has continued to sell fairly from vessel at 2 12½c, while from store a few small lots have been taken at 2 20@2 25c, as to quantity. Shipments are quoted at 1 95@2c and lots on the way at 2 05@2 10c.

Ammonias, Potashes and Fertilizing Chemicals.

The demand for the fertilizer chemicals continued fairly active until the advent of the storm, when in common with other lines business came to a stand, and for the past two days nothing, practically, has been done. The firm tone is still maintained, and we continue to quote $3 37½ for sulphate of ammonia, $2 25@2 30 for high grade and $2 15@2 20 for low grade dried blood, $2 20@2 25 for azotine, $21 50@22 for high grade and $18 50@19 for poorer qualities of tankage, $25@26 for fish scrap, and $16 50@17, as to quality, for refuse bone black.

Muriate of potash has been in fairly good demand, and remains firm in price. The agent of the manufacturers quotes, $1 77½ to arrive by steam, $1 75 to arrive by sail and $1 72½ for sail shipments.

Double manure salt is still somewhat irregular, but there has been no quotable change during the week, and the market closes quiet.

Kainit is scarce and firm, small sales having been made on the spot at $11, and $8 75 is quoted for March-April shipments.

Increased Sale of Fertilizers.

Major Edward Willis, of Charleston, S. C., has prepared the following interesting statement of the movement of fertilizers during the months of January and February from that port:

The forwarding of superphosphates and fertilizers during the months of January and February of this year has only been limited by the want of cars and room by the steamers, for many of the heaviest manufacturers are still behind in their shipments, no company having been able at any time to obtain the full number of cars required.

The South Carolina Railway, having to forward the greater part of this freight, have been one of the greatest delinquents, and the Charleston and Savannah Railway is next in default. The Northeastern Railroad has been more fortunate in accommodating the customers. All the roads have been crowded daily, and it may interest some to know the number of cars it required to make these shipments. Allowing that each car carried ten tons, or 20,000 pounds, it took 17,521 cars. But some cars hold as much as 40,000 pounds. Thus, then, it would require only 8,761 cars of this tonnage.

With this heavy amount already forwarded there still remain many thousands of tons yet to be shipped. There are few companies that do not now need help from the railroads, and if the rolling stock allow it there will be nothing carried over this season, all that is manufactured having been sold.

The most encouraging feature in through business is the wonderful decrease in the quantity of imported fertilizers, as will be seen by reference to the following comparison of the Custom House reports for 1887 and 1888:

Guano imported—	1887.	1888.
January.....Tons	50	....
February.....	....	....
Superphosphate imported—		
January.....	....	....
February.....	*1,702	....
Kainit imported—		
January.....	1,220	433
February.....	2,096	861

*Value $14,614.

The following statement makes a good showing for a business that looked so discouraging last year:

MANUFACTURED FERTILIZERS.

Number of tons of manufactured fertilizers passed over the various railroads and steamboat lines:

WING & EVANS

Commission Merchants,

92 WILLIAM STREET, NEW YORK.

Soda Ash, Sal Soda, Caustic Soda, Bleaching Powders

AGENTS FOR

BRUNNER, MOND & CO.

SOLVAY PROCESS CO.

C. ALLHUSEN & SON.

W. PILKINGTON & SON.

HAY GORDON & CO.

JAMES LEE & CO.

COMMISSION MERCHANTS,

72 PINE STREET, NEW YORK.

IMPORTERS OF

Soda Ash, Caustic Soda, Sal Soda, Bleaching Powder
Salt Cake, Oxide Manganese, Chloride Manganese,
Potash Alum, Sulphate Morphia,
Carbonate Potash.

SOLE AGENTS IN THE UNITED STATES FOR

Charles Tennant & Co.,

Edward Hill's Son & Co.,

25 and 27 Cedar St., New York.

Caustic Soda, Bleaching Powder, Soda Ash, Carbonated Crystals, Sal Soda, Bicarb Soda,

Caustic Potash, Carbonate Potash, Chlorate Potash,

ARSENIC.

Cocoanut Oil, Ceylon.
Cocoanut Oil, Cochin.
Palm Oil,
Citronella, Fisher's Brand
Cookson's Ven. Red,
Orange Mineral,

Blundell, Spence & Co.'s Paints and Colors.

Fratelli De Pasquale & Co.'s

ESSENTIAL OILS,

LEMON, BERGAMOT AND ORANGE. GUARANTEED PURE.

NATRONA BI-CARBONATE OF SODA

NATRONA

TRADE MARK

SODA

(ABSOLUTELY PURE.)

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., Kryolith, a mineral containing pure sodium—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-carb Soda from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of sulphate of soda, common salt and other impurities, render NATRONA BI-CARB NEARLY TASTELESS, and, being bolted through the finest bolting-cloth, insures the finest state of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA Bi-carb Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand Of English or American Manufacture.

Penna. Salt Manufacturing Co.,

Natrona Chemical Works, PHILADELPHIA, PA.

Jos. C. GAMBLE & SON,

ST. HELENS, Lancashire.

MANUFACTURERS OF

Purified AND Caustic Soda Ash

Cream Caustic Soda, Bleaching Powder, Sulphide of Sodium

CHLORATE OF POTASH,

Chlorate of Soda,

AND

Chlorate of Baryta and other Chlorates.

Atlantic Sulphur Works,

MANUFACTURERS OF

VIRGIN ROCK AND ROLL BRIMSTONE,

And Flour of Sulphur.

119 MAIDEN LANE NEW YORK.

TORONTO,

BROKERS

CANADA.

STANWAY & BAYLEY

ESTABLISHED 1869

CORRESPONDENCE INVITED

CAN SELL TO ADVANTAGE

HEAVY CHEMICALS,

Linseed Oil, Turpentine,
Glue, Etc., Etc.

GASKELL, DEACON & CO.

Alkali Manufacturers, WIDNES.
In addition to their well known Chemicals, offer their more recent specialty and already highly popular form of Soda

CRYSTAL CARBONATE

The Purest, Cheapest and most Soluble form of Crystallized Soda.

1 lb. Equal to 2 1-2 lbs. of Soda Crystals.

J. L. & D. S. RIKER, AGTS.

45 CEDAR ST **NEW YORK**

SCHERING & GLATZ,
55 Maiden Lane, N. Y.,
Importers of CHEMICALS, and Sole Agents for SCHERING'S and SAAMES'
CHLORAL HYDRATE,
Salicylic Acid, Carbolic Acid, Pyrogallic Acid, Glycerine,
Russian Isinglass, Paraldehyd, Etc., Etc.

NEW YORK COAL TAR CHEMICAL CO.,
Formerly, PAGE, KIDDER & FLETCHER,
10 Warren St N. Y.
CARBOLIC ACID, Crystals Liquid.
Myrbane Oil, Black Varnish, Creosote, Naphtha, &c

FERGUSSON BROTHERS
BROKERS AND COMMISSION MERCHANTS
102 CHESTNUT STREET, PHILADELPHIA
Glass, Soap & Paper Makers' Chemicals, Essential Oils
AGENTS FOR
GREENBANK CO., St. Helens. RUNCORN CO., Liverpool.
C. ALLHUSEN & SON, Newcastle. G. ABATE & SON, Messina
BLEACHING POWDER. CAUSTIC POTASH. BORAX.
SODA ASH. CHLORATE OF POTASH CASTOR OIL.
CAUSTIC SODA. CARBONATE OF POTASH CAMPHOR.
SAL SODA. OXALIC ACID. OIL LEMON.
NITRATE OF SODA. BRIMSTONE. OIL BERGAMOT.
Finest Quality Philadelphia Quercitron Bark for Export.

LINDER & MEYER,
21 PEARL STREET, BOSTON.
LIVER 72 Per Cent. & 74 Per Cent. CAUSTIC SODA,
HIGH TEST BLEACHING POWDER.
NEW ENGLAND AGENTS
BRUNNER, MOND & CO.'S 48 Per Cent. and 58 Per Cent PURE ALKALI.
SOLVAY PROCESS CO., 48 Per Cent. and 58 Per Cent. PURE ALKALI.

E. de HAEN,
Chemical Works, List, near Hanover, Germany,
Manufacturer of Chemicals,
For Pharmaceutical and Technical Purposes.
ROGERS & PYATT, Agents, 80 Maiden Lane, N. Y.
Ammonia Muriate Barium Per Oxy, Barium Nitrate, Benzoic Acid, Carbolic Acid Strontia Nitrate.

G. A. & E. MEYER,
COMMISSION MERCHANTS,
30 CLIFF STREET, NEW YORK.
Soda Ash, Sal Soda, Venetian Red.
Chance's Bicarb Soda, Indigo,
Pattinson's Carbonate and Calcined Magnesia.
Carbonate in 2 oz., 4 oz. small square & powdered. Calcined ¼ & 1 lb. bottles and 1 lb tins
AGENTS FOR
WASHINGTON CHEMICAL CO.
Also, LEECH, NEAL & CO.'S
Turkey and Indian Reds, Purple Browns, Colcothar, Metallic Oxides
Bright Red and Scarlet Oxides.

DOUBLE REFINED GRANULATED SALTPETRE
NIAGARA LABORATORY
JERSEY CITY
B. & R.
163 FRONT ST. NEW YORK OFFICE

BATTELLE & RENWICK,
163 Front Street,
NEW YORK.
THE NIAGARA LABORATORY,
MANUFACTURERS OF
Refined Saltpetre,
Crystals, Granulated and Powdered.

LARKIN & SCHEFFER,
ST. LOUIS,
MANUFACTURERS OF
Anhydrous Liquid Ammonia
(100 per cent. Ammoniacal Gas Liquified.)
AQUA AMMONIA—all strengths.
We guarantee quality, invite comparison, insure satisfaction.
Correspondence Solicited

Newcastle Chemical Works Co.

LIMITED.
Successors to C. ALLHUSEN & SONS.
Newcastle on Tyne, England,
MANUFACTURERS OF
Carbonated Soda Ash, 48, 52 & 56%
BLEACHING POWDER and SAL SODA.
Chemically Pure Caustic Soda 77 per cent.
Our 48 per cent Ash is manufactured under the NEW PROCESS, expressly for Glass-making. Newcastle test being more liberal than Liverpool, buyers of this brand gain from 1 to 2 per cent, in strength.
AGENTS FOR THE UNITED STATES
WING & EVANS
92 WILLIAM STREET, NEW YORK

South Carolina Railroad:	1887. Tons.	1888. Tons.
January	16,937	23 647
February	26,633	29,300
Northeastern Railroad:		
January	5,316	10,651
February	13,104	14,663
Charleston and Savannah Railroad:		
January	3,760	6,918
February	4,230	10,205
Santee, Georgetown, Beaufort, Edisto and Florida steamers:		
January	3,442	3,248
February	973	2,145
Total	74,443	100.775
Increase		26,332

Certainly an increase of 26 332 tons over 1887 should create renewed confidence, for there seems no need of any fear from foreign competition, and the season that opened with prices so low as to leave no margin for profit now finds all the product of the manufactories taken by the trade and prices handsomely advanced.

Phosphate miners have put the prices of rock at least two cents per unit higher, and it looks as if they now intend to control prices here instead of allowing it to be done in foreign markets.

Boiling Points of Solutions of Salt.

BY G. T. GERLACH.

From an exhaustive treatise on the boiling points of salt solutions, the author draws the following conclusions: The boiling points of liquids, aside from the pressure upon their surface, are largely dependent upon the nature of the vessel. Rough metallic or porcelain surfaces facilitate the boiling most. When salts are deposited from highly concentrated solutions the boiling point is lowered. Apparently the lowering of the boiling point is due to a liberation of the last portions of the water of crystallization of the salts. If the deposited salt is removed the boiling point rises and vice versa. There are salt solutions which under normal barometric pressure, may have their boiling point below 213 deg. Fahr., and at the same time give off vapors whose temperature is 212 deg. Fahr., also some salt solutions may have a boiling point far above 212 deg. Fahr., and yet give off vapors of only 212 deg. Fahr.

The boiling point curves approach a straight line when successive equal amounts of salt are dissolved in the same volume of water. If, however, in salts containing water of crystallization, the anhydrous salt molecule is taken into consideration, then the boiling point differences of the solutions at first increase and then diminish.

It seems, therefore, that during the boiling of a solution the water of crystallization of a salt is retained in combination. The contractions accompanying the solution of equal molecular weights of anhydrous salts increase with the amount of the molecular weight for the different members of the same group, such as the Cl, Br and I combinations and nitrates and sulphates; but, with alkaline hydrates and carbonates, and probably with all salts containing organic acids, the solutions of the sodium salts sustain greater contraction than the potassium salts.

If, however, the solutions of equal molecular concentration are compared according to their electro-negative elements, then the solutions of the chlorides show less contraction than the nitrates, and their solutions have a higher boiling point, etc. Here the contractions decrease with the amount of the molecular weight.

It appears that there is a specific relationship between the boiling points of salt solutions and the other properties of the salt, such as fusibility, solubility, contraction in dissolving the salt, the vapor tension, etc.

Fertilizer Sales in Connecticut.

In November last a circular was addressed by the Connecticut Agricultural Station to each manufacturer of fertilizers whose goods were legally sold in that state, asking for a statement of his total sales in Connecticut of the different classes of commercial fertilizers for the year ending Nov. 1, 1887. This request was made with the promise that the statement should be regarded as strictly confidential, and that only the aggregate sales in the state by all manufactuders should be published. Twenty-nine firms complied with this request, one firm declined to comply and thirteen took no notice of the circular. The aggregate amounts reported by twenty-nine firms are as follows:

Kainit	177
Muriate of potash	183
Sulphate of potash	30
Sulphate of ammonia	40
Nitrate of soda	69
Blood, ammonite and fish	157
Other nitrogenous matter	1,025
Bones	1,331
Plain superphosphate	195
Ammoniated superphosphates without potash	53
"Complete" manures	8,700
Total	11,287

If the sales of the fourteen other firms were on the average as large, the total sales would be about 16,700 tons. We believe the total sales were above rather than below these figures. A moderate estimate of the cost to purchasers of this quantity of fertilizers is $500,000.

Value of Waste Lye from Soap Works.

To an inquiry on this subject, referred to the Connecticut Agricultural Station, reply was made as follows, after obtaining and analyzing a sample.

The analysis of waste lye is as follows:

Nitrogen	·04
Potash	·03
Soda	5·34
Water	88·79
Carbonic acid, with small amounts of chlorine, sulphuric acid and undetermined matters, by difference	5·80
	100·00

The analysis fully confirms the view that the waste of soap works is now-a-days essentially destitute of plant food. This sample contains soda corresponding to 12·3 per cent of sodium carbonate. Since in the analysis, soda and carbonic acid, etc., amount to but 11·1 per cent there is evidently a small amount of caustic soda remaining in the lye. Speaking in general terms, carbonate of soda cannot be recommended as an application to land. There are indeed cases where it may do good, as experience has shown. Soil that is rich in vegetable matter, either that of drained swamp land, or of fields and gardens that have been heavily dressed with stable manure, may be benefitted and are least likely to be harmed by its use. Its action on such soils is indirectly to feed the crops by favoring the conversion of the inert nitrogen of the vegetable matter into soluble and available forms. If applied directly to the land, the lye should be diluted with 10 to 20 times its bulk of water. The best use to make of this lye would be in composting and rotting swamp muck or coarse vegetable refuse.

Dissolving Bone, Etc.

A correspondent inquires in substance as follows, from the Connecticut Agricultural Station:

1. Is the phosphoric acid of steamed bones available?

2. What quantity of acid is it best to use to cut steamed bones?

3. Is it necessary to treat fish with acid in order to make a good fertilizer of them?

4. What is the value of nitrate of potash as a fertilizer?

The answer is as follows: 1. Doubtless all the phosphoric acid of steamed bone is readily available, not so quickly as that of bones "dissolved" in acid, but quickly enough for all practical purposes, especially if the steaming has been done under high pressure so that the bones are easily crushed to powder.

2. The amount of acid advantageous to use for raw bones you will find stated on page 93 of the annual report—Dr. Alexander Muller's method. Steamed bones, if they require acid to subdivide them may be treated in the same manner.

3. It is not needful to treat fish with acid at all in order to make a good fertilizer. To prevent the loss of ammonia, and to suppress stink and destroy flies and maggots, it pays to sprinkle the fresh fish scrap with a few per cent of diluted oil of vitriol. That makes the bones so friable that they crush easily to powder and mostly converts them into superphosphate.

4. Nitrate of potash is excellent as a fertilizer but costs too much. It is cheaper to use nitrate of soda and muriate of potash together.

Superphosphate from Bone.

A correspondent asks the Connecticut Agricultural Station:

1. What quantity of acid is necessary to dissolve 100 pounds of bone?

2. What strength of acid is most suitable?

3. What will be the percentage composition of a superphosphate made from bone?

4. What will be the mechanical condition of the superphosphate?

Answer was made as follows:

1. As to proportion of sulphuric acid to bone. This may properly vary somewhat since commercial "bone" itself is not constant in composition. Its phosphoric acid varies from 19 to 30 per cent. and its nitrogen from 6 to 2·5 per cent., usually the more phosphoric acid, the less nitrogen: and vice versa. The age of the bone (or of the animal) the time it has been weathered, boiled or dried, the amount of meat, tendon, marrow and sand adhering to it, all influence its composition.

Some twenty-five years ago Prof. J. T. Way, then chemist to the Royal Agricultural Society of England, stated that 100 pounds of average bone require 29 pounds of strong oil of vitriol (66 deg. acid) to render the phosphoric acid all soluble, but as the organic tissue of the bone absorbs the sulphuric acid, sponge fashion, some excess of oil of vitriol, 35 to 40 pounds per 100 of bone, must be used for complete conversion of the phosphoric acid into a form soluble in water.

2. The strength of sulphuric acid to be used If oil of vitriol of 66 deg. be used, it should be diluted with about one-half its weight of water. A corresponding quantity of "chamber acid" may be used.

3. Way states that 100 pounds of bone and 29 pounds of 66 deg. acid should give a product of which 100 pounds contain:

Water	10
Animal matter	·27 with 1·25 nitrogen.
Hydrated sulphate of lime	·39
Superphosphate of lime	·24 with 17 soluble phosphoric acid.

In practice, however, all the phosphoric acid is not made soluble.

4. Pure bone-superphosphate will be an unmanageable paste if enough sulphuric acid be used to make nearly all its phosphoric acid soluble. There is agriculturally no gain in making all the phosphoric acid of bones soluble in water. Fine bone is of itself a quick fertilizer requiring no treatment with oil of vitriol, so that the most economical result is attained by acting on the coarser parts of ground bone with sulphuric acid, and using the fine bone as a dryer.

Theory of Odors.

A new theory has been put forth by M. P. Leclero that odor is light and sound, a phenomenon of undulation. He cites in support of his views that many substances, like sulphur and copper, do not emit odors until they are rubbed, and it is more reasonable to suppose that the rubbing causes undulations than that under the condition the substances emit matter which cannot be detected except as a smell. Again, arsenious acid, when thrown upon a burning coal, gives out thick gray fumes and an odor of garlic. In the solid state it has no smell, and no more in a vaporous state, if no chemical change takes place in volatilizing it. But when it is thrown upon the hot coal a reduction takes place to arsenic, that is volatilized, and then reoxidized on coming in contact with the air, and we have a smell accompanying the chemical action the same as in many other cases we have light or heat in connection with it. M. Leclero, though continuing his experiments with a rather imperfect instrument, claims to have produced interference of odors analogous with the interference of phenomena of light.

1858 1887

Welch Holme & Clark,

COMMISSION MERCHANTS

AND DEALERS IN

Druggists' and Soap Makers' Materials.

Soda Ash,	Rosin,
Caustic Soda,	Pearl Ash,
Sal Soda,	Turpentine,
Potash,	Grease,
Palm Oil,	Tallow,
Cocoanut Oil,	Cottonseed Oils

AGENTS FOR THE SALE OF

HOOF OINTMENT.

BEST THING IN USE.

381, 382 and 383 West Street,

AND

141 to 149 Barrow Street,

NEW YORK.

A. A. ROBBINS,

Miller and Importer of

Minerals, Clays, &c.

242 PEARL STREET N. Y.

Clays, Manganese, Fluor Spar, Feldspar, Flint, Silex, Pumice Stone, Rotten Stone, Lime Ash, Emery, Barytes, Ground Marble, Ground Glass, Ground Slate, White Sand, Talc, &c.

Established 1871

JOHN C. WIARDA,

66 and 68 Commmercial St., BROOKLYN, E. D., N. Y

MANUFACTURER OF

FLUORIC AND WHITE ACIDS,

Metal Oxides, Leaden Ware and Glass Mfrs. Materials.

Antimony Oxide, White,	Cobalt Oxide,	Iron Oxide,	Silver Oxide.
" Needle,	Copper " Black	Manganese,	Soda Ash,
" Diaphoretic,	" " Red,	Nickel Oxide,	Soda Bicarbonate
Ammonia Carbonate,	" Scale,	" Nitrate,	Tin Oxide
Bone Ash, pure white,	Feld Spar,	Potash Carb,	Tin Suboxide
Chrome Oxide,	Fluor Spar,	Saltpetre,	Uranium Oxide.

ELLIS YARNALL & SON,

105 So. Front St., PHILADELPHIA.

RUNCORN 48 per cent. SODA ASH, made by KURTZ process.

CAUSTIC SODA, BLEACHING POWDER.

CHLORATE OF POTASH and SAL SODA.

AGENTS FOR

A. G. KURTZ & CO., - - - - - ST. HELENS.

RUNCORN SOAP & ALKALI CO., - - LIVERPOOL.

W. H. CHAPPELL. ESTABLISHED 1849. E. F. CHAPPELL

Missouri Chemical Works,

W. H. CHAPPELL & CO. Manufacturers of

OIL VITRIOL, MURIATIC ACID, NITRIC ACID &c. ST. LOUIS, MO

ALONZO L. THOMSEN,

Manufacturing Chemist,

Works, Leadenhall & Winder Sts., BALTIMORE, MD

—EPSOM SALT, SAL SODA,—

IODIDE POTASSIUM, IODINE RESUBL., SULPHATE ZINC, CHEM. PURE ACIDS,

And a full line of other Chemicals.

Fairfield Chemical Co.,

71 WALL ST., NEW YORK.

MANUFACTURERS OF

OIL VITRIOL,

NITRIC AND MURIATIC ACID AQUA FORTIS, &c.

Mixed Acids for Nitro-Glycerine a Specialty.

Works at Bridgeport and New Haven, Conn.

"THE SKULL" BRAND

CAUSTIC SODA.

Mort, Liddell & Co. Widnes, England.

Agents at Chicago, KENLY & JENKINS, 12 & 14 Franklin St.

Ammonia as a Refrigerating Agent.*

THE SUBJECT FULLY DISCUSSED BY A CHEMIST.

In all cases where a liquid is employed, the refrigerating action is produced by the change in physical state from the liquid to the vaporous form. It is, of course, well known that such a change can only be brought about by the acquirement of heat; and for the purpose of refrigeration (by which must be understood the abstraction of heat at temperatures below the normal) it is obvious that, other things being equal, that liquid is the best which has the highest heat of vaporization, because with it the least quantity has to be dealt with in order to p oduce a given result. In fact, however, liquids vary, not only in the amount of heat required to vaporize them (this amount also varying according to the temperature or pressure at which vaporization occurs), but also in the conditions under which such change can be effected. For instance, water has an extremely high latent heat, but as its boiling point at atmospheric pressure is also high, evaporation at such temperatures as would enable it to be used for refrigerating purposes can only be effected under an almost perfect vacuum. The boiling-point of anhydrous ammonia, on the other hand, is 37½ deg. below zero Fahr. at atmospheric pressure, and therefore for all ordinary cooling purposes its evaporation can take place at pressures considerably above that of our atmosphere. The curve of vapor-tensions of anhydrous ammonia is also given as well as those of some other agents which are used for refrigerating purposes, viz., methylic ether, Pictet's liquid sulphur dioxide and ether. In this connection it should be stated that Pictet's liquid is a compound of carbon dioxide and sulphur dioxide, and possesses the property of having vapor-tensions not only much below those of pure carbon dioxide at equal temperature, but even below those of pure sulphur dioxide at temperatures above 78 deg. Fahr.

The considerations, therefore, which chiefly influence the selection of a liquid refrigerating agent are:—

1 The amount of heat required to effect the change from the liquid to the vaporous state, commonly called the latent heat of vaporization.

2. The temperatures and pressures at which such change can be effected.

This latter attribute is of two-fold importance; for in order to avoid the renewal of the agent it is necessary to deprive it of the heat acquired during vaporization under such conditions as will cause it to assume the liquid form, and thus become again available for refrigeration. As this rejection of heat can only take place if the temperature of the vapor is somewhat above that of the cooling body which receives the heat, and which for obvious reasons is in all cases water, the liquefying pressure at the temperature of the cooling water, and the facility with which this pressure can be reached and maintained is of great importance in the practical working of any refrigerating apparatus.

Ammonia in its anhydrous form, the use of which is specially dealt with in this paper, is a liquid having at atmospheric pressure a latent heat of vaporization of 909, and a boiling point at the same pressure of 37½ deg. below zero Fahr. Water being unity, the specific gravity of the liquid at a temperature of 40 deg. Fahr. is 0·76 and the specific gravity of its vapor is 0·59, air being unity. In the use of ammonia, two distinct systems are employed. So far, however, as the mere evaporating or refrigerating part of the process is concerned, it is the same in both. The object is to evaporate the liquid anhydrous ammonia at such tension and in such quantity as will produce the required cooling effect. The actual tension under which this evaporation should be effected in any particular case depends entirely upon the temperature at which the acquirement of heat is to take place, or, in other words, on the temperature of the material to be cooled. The higher the temperature, the higher may be the evaporating pressure, and therefore the higher is the density of the vapor, the greater the weight of liquid evaporated in a given time, and the greater the amount of heat abstracted. On the other hand, it must be remembered that, as in the case of water, the lower the temperature of the evaporating liquid, the higher is the heat of vaporization. It is in the method of securing the rejection of heat during condensation of the vapor that the two systems diverge, and it will be convenient to consider each of these separately.

The Absorption Process.—The principle employed in this process is physical, rather than mechanical. Ordinary ammonia liquor of commerce of .880 specific gravity, which contains about 38 per cent. by weight of pure ammonia and 62 per cent. of water, is introduced into a vessel named the generator. This vessel is heated by means of steam circulating through coils of iron piping, and a mixed vapor of ammonia and water is driven off. This mixed vapor is then passed into a second vessel, in order to be subjected to the cooling action of water; and here, owing to the difference between the boiling points of water and ammonia, fractional condensation takes place, the bulk of the water, which condenses first, being caught and run back to the generator, while the ammonia in a nearly anhydrous state is condensed and collected in the lower part of the vessel.

This process of fractional condensation is due to Rees Reece, and forms an important feature in the modern absorption machine. Prior to the introduction of this invention, the water evaporated in the generator was condensed with the ammonia, and interfered very seriously with the efficiency of the process by reducing the power of the refrigerating agent by raising its boiling point. In the improved form of apparatus ammonia is obtained in a nearly anhydrous condition, and in this state passes on to the refrigerator. In this vessel, which is in communication with another vessel called the absorber, containing cold water or very weak ammonia liquor, evaporation takes place, owing to the readiness with which cold water or weak liquor absorbs the ammonia, water at 59 deg. Fahr. absorbing 727 times its volume of ammonia vapor. The heat necessary to effect this vaporization is abstracted from brine or other liquid, which is circulated through the refrigerator by means of a pump. Owing to the absorption of ammonia, the weak liquor in the absorber becomes strengthened, and it is then pumped back into the generating vessel to be again dealt with as above described.

The absorption apparatus, as applied for cooling purposes, consists of a generator, which is a vessel of cast iron containing coils of iron piping to which steam at any convenient pressure is supplied; an analyzer, in which a portion of the water vapor is condensed, and from which it flows back immediately into the generator; a rectifier and condenser, in the upper portion of which a further condensation of water vapor and a little ammonia takes place, the liquid thus formed passing back by a pipe to the analyzer and thence to the generator, while in the lower portion the ammonia vapor is condensed and collected. There is also a refrigerator or cooler, into which the nearly anhydrous liquid obtained in the condenser is admitted by a pipe and a regulating valve, and allowed to evaporate, the upper portion being in communication with the absorber. Through this vessel weak liquor, which has been deprived of its ammonia in the generator, is continually circulated, after being first cooled in the economizer by an opposite current of strong cold liquor passing from the absorber to the generator, while, in addition, the liquor in the absorber, which would become heated by the liberation of heat due to the absorption and consequent liquefaction of the ammonia vapor, is still further cooled by the circulation of cold water. As the pressure in the absorber is much lower than that in the generator, the strong liquor has to be pumped into the latter vessel, and for this purpose pumps are provided. Though of necessity the various operations have been described separately, the process is a continuous one, strong liquor from the absorber being constantly pumped into the generator through the heator or economizer, while nearly anhydrous liquid ammonia is being continually formed in the condenser, then evaporated in the refrigerator and absorbed by the cool weak liquor passing through the absorber.

Putting aside the effect of losses from radiation, etc., all the heat expended in the generator will be taken up by the water passing through the condenser, less that portion due to the condensation of the water vapor in the analyzer, and plus the amount due to the difference between the temperature of the liquid as it enters the generator, and the temperature at which it leaves the condenser. In the refrigerator, the liquid ammonia in becoming vaporized will take up the precise quantity of heat that was given off during its cooling and liquefaction in the condenser, plus the amount due to the difference in heat of vaporization, owing to the low pressure at which the change of state takes place in the refrigerator, and less the small amount due to the difference in temperature between the vapor entering the condenser and that leaving the refrigerator, less also the amount necessary to cool the liquid ammonia to the refrigerator temperature. When the vapor enters into solution with the weak liquor in the absorber, the heat taken up in the refrigerator is imparted to the cooling water, subject also to corrections for differences for pressure and temperature. The sources of loss in such an apparatus are:

a. Radiation and conduction of heat from all vessels and pipes above normal temperature, which can, to a large extent, be prevented by lagging.

b. Conduction of heat from without into all vessels and pipes that are below normal temperature, which can also, to a large extent, be prevented by lagging.

c. Inefficiency of economizer, by reason of which, heat obtained by the expenditure of steam in the generator, is passed on to the absorber, and there uselessly imparted to the cooling water

d. The entrance of water into the refrigerator, due to the liquid being not perfectly anhydrous.

e. The useless evaporation of water in the generator.

With regard to the amount of heat used, it will have been seen that the whole of that required to vaporize the ammonia, and whatever water-vapor passes off from the generator, has to be supplied from without. Owing to the fact that the heating takes place by means of coils, the steam passed through may be condensed and thus each pound can be made to give up some 950 units of heat. With the absorption process worked by a fairly efficient boiler, it may be taken that 200,000 thermal units per hour may be eliminated by the consumption of about 100 lbs. of coal per hour, with a brine temperature in the refrigerator of about 20 deg. Fahr.

Compression Process.—In this process ammonia is used in its anhydrous form. So far as the action of the refrigerator is concerned, it is precisely the same as it is in the case of the absorption apparatus, but instead of the vapor being liquefied by absorption by water, it is drawn off from the refrigerator by a pump, by means of which it is compressed and delivered into the condenser at such pressure as to cause its liquefaction at the temperature of the cooling water. For any given temperature the pressure required to effect this liquefaction may be seen by reference to Fig. 1; it being borne in mind that allowance must be made for the rise in temperature of the water passing through the condenser, and also for the difference in temperature necessary in order to permit the transfer of heat from one side of the cooling surface to the other. In a compression machine the work applied to the pump may be accounted for as follows:

a. Friction.

b. Heat rejected during compression and discharge.

c. Heat acquired by the ammonia in passing through the pump.

d. Work expended in discharging the compressed vapor from the pump.

But against this must be set the useful mechanical work performed by the vapor entering the pump.

The heat rejected in the condenser is the heat of vaporization taken up in the refrigerator, less the amount due to the higher pressure at which the change in physical state occurs, plus the heat acquired in the pump, and less the amount due to the difference between the temperature at which the vapor is liquefied in the condenser and that at which it entered the pump.

There is an ammonia compression machine, as applied to ice making.

It has ice-making tanks, in which is circulated a brine mixture, uncongealable at any temperature likely to be reached during the process. This brine also circulates around coils of wrought iron pipes, in which the liquid ammonia passing from the condenser is vaporized, the heat required for this vaporization being obtained from the brine. A pump driven in this case by a steam engine is combined with it. This pump draws off the ammonia vapor from the refrigerator coils, and compresses it into the condenser, where, by means of the combined action of pressure and cooling by water, it assumes a liquid form, and is ready to be again passed on to the refrigerator for evaporation. With regard to the fuel required for refrigerating by the ammonia compression process, it may be said that, with an economical boiler and engine, about 240,000 thermal units per hour can be eliminated by the expenditure of 100 pounds of coal per hour, with a brine temperature in the refrigerator of about 20 deg Fahr.

*Read on Feb. 1st., before the civil and Mechanical Engineers' Society, by T. B. Lightfoot, M.I.C.E., M.I.M.E., and published in *Invention* of London.

Copperas as a Fertilizer.

A correspondent writes as follows to the Connecticut Agricultural Station:

"The *Journal of the Chemical Society* states that copperas is a valuable dressing for many crops; that one-eighth of an acre with fourteen pounds applied yielded 5,278 pounds of potatoes an increase of 400 pounds over a similar plot not so treated; also recommends it for other crops—hay was doubled in quantity by its use—and so fourth.

"I would like to ask you what fertilizing material it contains and whether the statement seems reasonable enough to warrant making the experiment. I think it will cost about three cents per pound by the barrel. I expect to use some this year to protect grapevines from rot and mildew. As it has a sterilizing effect on fungi I should infer that it might act injuriously on the growth of agricultural plants."

Answer.—The statement by A. B. Griffiths in the *Journal of the Chemical Society* to which you refer gives an account of some remarkable results from the use of copperas (protosulphate of iron) on various crops. He found that there was less increase of yield in case of the cereals than with root crops. But he claims that copperas prevents or hinders mildew on wheat and that in very weak solution (one part by weight in one thousand of water) it destroys the spores of mildew; which is remarkable because most spores are very retentive of life. On mossy land Griffiths observed that it destroyed moss and increased the grass crop. All this seems to have been accomplished with very moderate applications, only one-half a cwt. (fifty-six pounds) per acre. Sir J. B. Lawes is quoted as saying that in his experience 1½ cwt. was rather too much to apply per acre. Griffiths' explanation of the favorable effect of copperas is that it increases the chlorophyl in the leaves, of which iron is an essential constituent, and so increases the power of the plant for assimilation. He finds a larger percentage of fiber, of carbhydrates and of nitrogen, in crops raised with an application of copperas than in those produced on the same kind of soil without it, which facts he cites as sustaining his hypothesis. But since the soil itself with which he experimented contained 3·95 per cent of sesquioxide of iron, it is difficult to believe that it could not furnish as much assimilable iron as his application of fifty-six pounds per acre of copperas. The iron of the soil is, however, in all ordinary cases very slowly and slightly soluble; in some soils a supply of freely soluble iron may be of great advantage to crops. It was demonstrated that the observed increase of crop was not due to a supply of sulphuric acid by the copperas because kainit and superphosphates containing abundance of sulphuric acid, proved to have less effect.

The results are scarcely to be explained by the indirect action of the salt in making plant-food soluble in the soil-water, for kainit which would be supposed to exert such effect, did not give nearly so large a yield as the copperas. It is probable that in the soil on which Griffiths operated there were certain fungi or bacteria which had an unfavorable effect on crop-production and that copperas was beneficial chiefly or wholly on account of its property of destroying or sterilizing these organisms. Kellner in experiments on small plots of ground in Japan with from 50 to 600 pounds of copperas to the acre found no good effect and no injury from its use. Konig, in Germany, observed an increase of crop in some trials made in this way.

I know of but one experiment in this country with copperas, made by G. H. Whitcher at the New Hampshire Agricultural College Farm, and reported in "Agricultural Science." To one quarter of an acre of land was applied broadcast, 70 pounds of dissolved boneblack, 30 of muriate of potash and 10 of sulphate of ammonia, and in the hill 35 pounds of dissolved boneblack, 15 of muriate of potash and 8 of copperas. To another adjoining quarter acre plot were added the same fertilizers in the same way but omitting the copperas. Both plots were planted to maize. That which had copperas produced a rank growth of dark green color. The harvest was as follows:

	Sound corn.	Soft corn.	Stover.
One-fourth acre with chemical manures and copperas	820	110	1000
One-fourth acre with chemical manures without copperas	670	170	970
Gain or loss	+150	—60	+30

Thirty-two pounds of copperas per acre increased the yield of corn 600 pounds, or 22 per cent.

In Europe many trials with sulphate of iron, sulphate of soda, sulphate of magnesia, common salt, chloride of calcium, chloride of magnesium and various other saline compounds were on record thirty or forty years ago and instances were not wanting in which crops improved in appearance and increased in quantity by such applications.

Trials with copperas being inexpensive, are well worth making, though to judge from past experience this substance will not be found generally helpful. It will be injurious to agricultural plants when applied in too large quantities; even in small quantity it may prove a damage on "sour," that is, close-textured and wet land. It might be found of advantage, if anywhere, on rich garden land that has had abundance of stable manure applied for many years.

The Salt Beds of the Tees.

Consular Agent Neilson, of Hartlepool and Middlesbro, says that since the date of his last annual report—1886—a considerable salt trade has been developed in his district. Boring for salt along the mouth of the Tees was begun three or four years ago, a bed of rock salt having at an earlier date, been discovered while sinking for fresh water for a large iron works. The bed was found at a depth of 1,200 feet, and is reported to be about 100 feet thick. The boring was effected by the diamond borer. The bore thus made down to the salt bed is lined with an iron tube through which fresh water flows, either from the surface or from the strata traversed, and after having become saturated with salt, runs through an inner tube for a certain distance, and is finally pumped to the top as brine, into a reservoir. This has been the usual method of reaching the salt beds of South Durham, but a new American invention has been introduced recently. This consists of a strong auger stem and heavy steel tools by which the bed is pierced and the rock broken. The method of raising the brine is about the same with both methods. From the reservoir this is pumped into salt pans, and the moisture evaporated by heat, until salt is the result.

It has been ascertained that the salt beds extend nearly all the way from the Tees—Middlesbro—to Hartlepool, including a very large area, and it is confidently anticipated that the production of salt will develop into a large local industry, and find a market both at home and abroad. It is stated that more than 100,000 tons have been produced within the last twelve months, and it is expected that this will be doubled during the coming year.

AMERICAN LUBRICATING OIL CO.,

OF CLEVELAND, OHIO, U. S. A.,

MANUFACTURERS OF

ALL GRADES OF

LUBRICATING AND MACHINERY OILS,

Railroad, Engine, Car and Coach Oils

A Specialty.

THE

DOMESTIC TRADE DEPARTMENT

OF THE

ATLANTIC REFINING CO.

OFFICE, 125 ARCH ST., PHILADELPHIA.

CONTINENTAL AND

150 FIRE TEST
WATER WHITE.

"ATLANTIC"
In convenient cans, each furnished with a nozzle.

"WESTMINSTER"

OILS.

Sole Manufacturers of the Celebrated Brands

"OPTIMUS" (A) and (O) LUBRICATING OILS.

For Car Boxes and Heavy Journals.

GASOLINES all Gravities, from 62° to 105° Orders will receive prompt attention.

DYE MARKET

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on page 50.

TUESDAY EVENING March 13, 1888.

As in other lines, the business doing in the market for dyes and dyestuffs has not been out of the ordinary, and the storm of Monday paralyzed trading entirely, brokers and dealers being snowbound and unable to reach their offices. Railroad traffic, as far as freight is concerned, is practically at a standstill, and buyers are loth to purchase,until they can get a clear conception of when their goods will be shipped

Bichromate of potash is unchanged and in moderate demand in a jobbing way at the following figures: 10½c on orders of 5 casks, while a higher figure is named on orders for smaller quantities. On bichromate of soda the demand has been moderate with 8¾c quoted on orders of 5 casks, and a corresponding advance on orders for smaller lots.

Cochineal has continued dull and neglected, with positively no inquiry for stocks. The following are quoted nominally: 30c for Teneriffe silver, 50c for black and 33c for gray black.

Cutch—The steamer St. Albans, due here about March 23, has on board about 3,750 bags, all of which have been sold at high prices, and much interest is manifested as to what effect her arrival will have upon the market. There are several other vessels with supplies on board which are near at hand. The business has been a jobbing one, and we are unable to note any special feature. Quotations are unchanged at 7¼@7½c for Diamond, SM, while other brands may be obtained at 7@7¼c. For shipments the quotations continue at 6¼@6½c.

Divi divi—There are no special features to report for this article. There has been no demand worthy of moment. Quotations are still at $60@65.

Dyewoods have received a reasonable amount of attention, and a very fair jobbing trade has been done at the following figures: Hayti logwood from the north side $30, from the south side $25, and Laguna logwood at $35. The market for Mexican fustic continues firm with the quotations at $25. Dyewood extracts have been in fair request in a jobbing way at the following figures: Liquid 51 deg logwood at 7c for domestic and 6¾@8½c for imported; 42 deg 5¾@5¾c; fustic at 8@9½c for 51 deg and 8½@9½ for 43 deg. Solid logwood is held at 9@9½c, and solid fustic at 10¼@11¼c. Sumac extract is quotable at 4@10c for liquid 51 deg and 8c for solid; hypermic at 15@16c for 51 deg and 20@24c for solid.

Gambier—The Guy Mannering, which came direct from Singapore, has arrived with supplies to the extent of, say, 600 bags, pretty much all of which, it is said, is already sold. There has been some little inquiry, but little business has been consummated. The store price continues at 5¼@5½c.

Indigo has been exceedingly quiet, and stocks have been neglected. The ruling quotations are as follows: 90c@$1 for low grade Bengal, $1 10@1 25 for medium and $1 25@1 40 for fine. Madras remains quiet at 30@55c.

The following, dated Calcutta, 31st January, 1888, gives an interesting account of the above for the season 1887-88, and is supplied through the courtesy of Mr. A. T. Turner, Jr., of Boston:

Though the cost of indigo seed had been more than 50 per cent. above average of the last ten years, it was known in April, 1887, that European planters had sown as much as usual, and that the area under cultivation in the N. W. Provinces was much larger than the previous year, which led sanguine foreseers to prophesy a crop of at least 160,000 maunds. Prospects were indeed very favorable, but the result eventually showed that "prospects" should not be talked of before the second part of the manufacturing season, or anyhow not before the plant has obtained its full growth. It was evident already in July that the crop could not exceed 140,000 maunds, and when returns from the Northwest allowed of an approximate estimate of the crop from these districts, it became certain in September that the crop would not exceed 133,000 maunds and would not be below 128,000 maunds. It appears that the reported extension of the area under cultivation in the N. W. Provinces had been greatly exaggerated, and that native planters individually had only a fair average crop. Nor do they seem to entertain any idea of increase in the planting and manufacturing of indigo as the experience of the last four years has shown that average crops, with prices ranging between Rs 170 and Rs 200 per maund for Oudes, pay planters better than large crops with a drop of Rs 30@60 on above price. We are therefore inclined to hold up our opinion, expressed last year: that it is very improbable to see crops from these parts exceed 45,000 maunds.

The quality of this year's crop was generally disappointing. Tirhoot, Chuprah and Chumparun were rather below average, and the scarcity, not to say the total absence, of fine was one of the striking features of the season. The color was good, with a great proportion of red, but the paste was mostly deficient and very often, in any case more than usual, coarse and rough. Lower Bengal was of good average quality, with also a very sensible deficiency of fine. The Benares crop was larger than last year and contained a very fair selection of colory well assorted goods. Produce from the N. W. Provinces was inferior to last year's but showed a very satisfactory result and a decided improvement in manufacturing, which, to a certain extent, explains the small quantity sold below Rs 160, there being practically very little low indigo for sale.

The first arrival of Oudes took place at the Middle of October, and a moderate quantity was sold at about Rs. 13 above last year's average before the opening of the sales on the 14th November. At this date a quantity of European marks had appeared on the market and were put up for sale together with Oudes which experienced in auction a fall of about Rs. 10 against private sales. Bengal and Behar opened at an advance of about Rs. 5@10 for ordinary middling, Rs. 10@15 for good middling, and Rs. 15 for good to fine, on last year's rates. When a larger quantity of good middling to fine was offered the demand for Russia increased and a further advance of Rs. 5@10 was established. By the middle of December an unusual strong demand sprung up for good marks of Bengal and Behar, and an exceptionally large business was done by private contract, both "to arrive" and on the spot. This gave the market a fresh spurt and prices further advanced from Rs. 5@10 for all qualities between Rs. 195and 225. Good to fine remained unchanged, but when in January the North-West crop began to get exhausted

Nutgalls—Both China and Aleppo galls have experienced rather a spasmodic demand during the past week, which at times has been quite fair, and at others rather limited. On the former the quotations continue at 15¼@16¼c and on the latter 14¾@15¾c.

Prussiate of Potash—Yellow has been rather quiet during the interval, with the quotations unchanged at 19c. Red is quiet at 42c.

Sumac—The business in Sicily has been confined to jobbing proportions, and some 150 bags have been sold in this way at unchanged figures.

Tin Crystals—There has been a continued fair demand, with values quoted at 25@26c.

Nitrate of Soda Statistics.

Messrs. Gerard & Brown have issued a concise and comprehensive statement of the movement and stocks of nitrate of soda for several years past. The shipments for three years were as follows:

	1885.	1886.	1887.
To Europe.....tons.	396,000	369,500	610,000
To U. S., Atlantic ports	36,000	69,700	66,000

The deliveries for ten years were:

	Europe.	United States.
1877	267,910	23,000
1878	219,980	30,000
1879	242,900	28,000
1880	164,000	32,000
1881	231,000	50,000
1882	299,140	51,000
1883	413,170	49,000
1884	461,540	52,000
1885	398,450	40,000
1886	409,615	55,000
1887	482,110	63,000

STOCKS IN STORE AT NEW YORK JANUARY 1st.

	Bags.
1882	19,668
1883	68,639
1884	53,418
1885	101,523
1886	74,691
1887	66,580
1888	56,940

AVERAGE PRICES AT NEW YORK.

	Cents.
1876	2¾
1877	3⅛
1878	3¼
1879	2⅝
1880	2⅝
1881	2¼
1882	2¾
1883	2⅝
1884	2⅛
1885	2¼
1886	2¼
1887	2 0-5

NOTICE !

Acid Magenta,

Patented Nov. 29th, 1881.

No. 250,247.

The Hon. Judge Wallace, sitting Circuit Judge of the United States, having on the 31st day of January, 1887, rendered a very elaborate opinion sustaining the above patent, we, the owners thereof, hereby warn any and all persons manufacturing, selling or using this product without our license, that they will be prosecuted.

R. Holliday's Sons,

No. 7 Platt St., New York City.

N. B.—Any person furnishing proof of infringement will be suitably rewarded.

Wm. Pickhardt & Kuttroff,

SOLE IMPORTERS OF

Dyestuffs, Colors and Chemicals,

MANUFACTURED BY

Badische Anilin-& Soda-Fabrik

Stuttgart & Ludwigshaven o/Rhine, Germany.

98 Liberty Street,

BRANCHES:
Boston,
Philadelphia.
Chicago.

NEW YORK.

Coal Tar Dyes, Fine Colors, Dyewood Extracts, Ultramarine, Alizarine.

ANILINE COLORS,

Dyes, Drugs, Chemicals, &c

SCHOELLKOPF, HARTFORD & MACLAGAN,
(LIMITED.)

Agents, Dealers, Importers and Exporters.

3 CEDAR ST., NEW YORK.

AGENTS FOR

The Schoellkopf Aniline & Chemical Co, Buffalo,	Aniline Colors.
Howards & Sons, Stratford, London	Fine Chemicals.
Sir James B. Lawes, London,	Citric Acid.
Hofmann & Schoetensack, Ludwigshafen,	Chemicals.
John Riley & Sons, Accrington,	Arsenia e and Stannate Soda.&c.
Typke & King, London,	Hypophosphites Lime, Soda, &c.
Harrington Bros., Cork,	Carbonate Magnesia,

AND

Samuel Lambert & Co., London, Export Drug Commission House.

A further list of agencies will be published soon.

WILLIAM RUPP, F. C. S.

Analytical and Consulting Chemist.

Experimental Investigations in all Branches of Technical Chemistry. Analyses of Ores, Metals Fertilizers, Waters, Coal and Commercial and Technical Products.

Laboratory 117 PEARL STREET, Hanover Square, NEW YORK

CORRESPONDENCE SOLICITED.

E. COEZ & CO.,

SPECIALTIES FOR Wool Cotton, and Silk Dyers.

E. COEZ & Co. ★★★ TRADE MARK

SPECIALTIES FOR Calico Printers

ST. DENIS, (SEINE), FRANCE,

MANUFACTURERS OF

DYEWOOD EXTRACTS.

All packages bear our Trade Mark (branded) and we guarantee absolute uniformity in deliveries of our products.

SOLE U. S. AGENTS,

111 Milk Street, BOSTON. } **SYKES & STREET,** { 43 North Front Street, PHILADELPHIA.
21 Cedar Street New York.

Saltpeter, Shellac, Indigo,
Linseed, Cutch, Jute Butts,
Jute, Patna, Goatskins, Hides.

Orders executed on the most favorable terms for shipment from Calcutta & London. **F. W. HEILGERS & CO.,** *(Calcutta & London.)*

REPRESENTED BY

WM. B. COOPER,
71 Wall St., NEW YORK.

QUERCITRON BARK.

J. T. McKENNA,
NEW CANTON, VA.

Extracts & Carmines
—OF—
INDIGO,
TAYLOR & BARKER,
Manufacturing Chemists LOWELL, MASS

GLOBE ANILINE WORKS

HELLER & MERZ,

Manufacturers and Importers of

ANILINES.

55 Maiden Lane, NEW YORK.

PITTSBURGH TAR CHEMICAL WORKS.

Slocum, Lloyd & Orr, Ltd.

REFINERS OF COAL TAR

And Manufacturers and Dealers in all its Products.

SPECIALTIES.

Naphthalene and Carbolic Acid

CRUDE, REFINED AND IN CRYSTALS,

FROM 5 PER CENT. TO 85 PER CENT.

Also Crude Benzole, Solvent Naphthas, Carbolate Powder, The Universal Disinfectant, in bulk or packages; Moth Powder and Paper, White Tar Paper and a superior quality of

OIL MYRBANE.

OFFICE AND WORKS,

P. O. Box 566, PITTSBURGH, PA. Allegheny, Pa.

Eastern Agents—CHAS. T. WHITE & SON, 96 & 98 Maiden Lane, New York.

JAS. L. MORGAN & CO.,

MANUFACTURERS IMPORTERS AND DEALERS IN

ACIDS, DYEWOODS, DYESTUFFS,

CHEMICALS AND DYEING DRUGS,

47 Fulton St., New York. Hudson River Chem. W'ks & Dyewood Mills

---

CANADA DYESTUFF AND CHEMICAL CO.,

Importers and Dealers in Aniline Colors, Dyewoods, Extracts, Gums, Madders Indigo and other Dyewares. All Dyers' and Printers' Colors and Mordants. Oils and Chemicals of every description. Correspondence solicited.

Offices—18 St. Alexis St. Warehouses—De Bresoles St., MONTREAL.

HOLLINGSWORTH & PETERSON,

BROKERS IN

Chemicals, Dyestuffs, Drugs and Spices

49 NORTH FRONT STREET PHILADELPHIA

RIVERSIDE DYEWOOD MILLS AND EXTRACT WORKS

John M. Sharpless & Co.,

—MANUFACTURERS OF—

Pure Extract of Logwood

AND ALL KINDS OF DYEWOODS.

—IMPORTERS OF—

Indigo, Cutch, Chemicals, &c.,

20 & 22 N. FRONT ST., PHILADELPHIA

BELLHOUSE, DILLON & CO,

IMPORTERS OF

Chemicals, Dyestuffs and Acids.

9 Custom House Square, Montreal.

THE TURKEY RED OIL MANUFACTURING CO

(INCORPORATED 1884.)

WORKS AT - - - - - JERSEY CITY, N. J.

OFFICE, 14 DEY STREET, NEW YORK.

We are prepared to offer **TURKEY RED OIL** or **ALIZARINE ASSISTANT** in any strength required and GUARANTEED made from pure Castor Oil.

All orders to be addressed to

J. C. BLOOMFIELD & CO.,

14 DEY STREET, NEW YORK. *SELLING AGENTS.*

HENRY MERZ, Pres't. CHAS. F. ZENTGRAF, Sec'y. W. HOFFMANN, Treas

The Consolidated Ultramarine Co.

(Limited.)

Manufacturers, Importers and Dealers in

ULTRAMARINE,

BALL BLUE and

BARREL PAINT.

No. 55 Maiden Lane,

C. U. C.
TRADE MARK.

NEW YORK.

WILLIAM KING. ROBERT A LAWRIE.

J. C. BLOOMFIELD & CO.,

IMPORTERS OF

Indigos, Dyestuffs, Aniline Colors,

&c.

MACHINERY FOR CALICO PRINTERS BLEACHERS AND DYERS.

Lappings, Cotton, Woolen, Rubber and Composition Machine Blankets

DOCTORS AND DOCTOR FILES.

14 DEY STREET, NEW YORK,

BRANCH OFFICE —AND—

3 Weybosset St., Prov., R. I. Manchester, Eng

DAVIS, WOLT & CO.,

BROKERS IN

Drugs, Dye Stuffs, Dyewoods, Chemicals, Oils, &c.

Agents for

The Greenbank Alkali Co's Chlorate, Caustic and Carbonate of Pot ash, and 76 and 98 Per Cent. Caustic Soda.

8 PINE STREET. NEW YORK

HOWE, BALCH & TAY,

Importers and Dealers in

INDIGO, CUTCH, DYESTUFFS,
DYEWOOD EXTRACTS,
CUDBEAR, ARCHIL,
EXTRACT OF INDIGO &c

Commission Merchants in East India Merchandise.

BOSTON—70 Kilby Street. PHILADELPHIA—17 North Front St.
NEW YORK—77 Water Street. CALCUTTA—15 Hare St.

AGENTS FOR

ARBUTHNOT & CO., Madras, India.
PUNNETT & CO., Bombay, India.
HENRY TAY & Co., Buenos Ayre

Bi-chromate of Potash

MANUFACTURED BY

Kalion Chemical Co.

HOLLINGSWORTH & PETERSON,

49 North Front St., Philadelphia.

SOLE AGENTS FOR

Pennsylvania New Jersey, New York and New England States.

Fabriques de Produits Chimiques de Thann et de Mulhouse, (Alsace)

REGISTERED TRADE-MARK.

MANUFACTURERS OF

Aniline Oils, Aniline Salts, Toluidines,

DYEWOOD EXTRACTS, DYESTUFFS AND CHEMICALS,

Pigments, Carmines, Mordants, Etc.,

Branch Office, No. 6 Cedar Street,

CHAS. A. TETAZ, Manager. NEW YORK.

THOMPSON & BEDFORD COMPANY LIMITED

MINERAL

LUBRICATING

OILS

NEW-YORK

HIGH FLASH

HIGH VISCOSITY

PARAFFINE or PALE OILS, 885°, 905°, 915°, and 920° Sp. Gr. in Flash Point ranging from 330° to 410°

BLACK OILS, 15° Cold Test, 340° Flash. 25° to 30° Cold Test, 360° to 400° Flash.

NATURAL WOOL OILS, AMBER MACHINERY OILS, NEUTRALS OF WHITE & LEMON COLOR,

ROPE AND JUTE OILS,

DARK AND FILTERED CYLINDERS, Etc., Etc., of the highest grades

CRUDE OR SCALE AND REFINED PARAFFINE WAX.

128 PEARL STREET, NEW YORK.

Ducie Buildings, Bank Street, Manchester, England. | 36 & 38 Stern Strasse, Frankfort-on-Main, Germany. | 17 Rue de Faubourg Montmartre. Paris, France.

MAVERICK OIL CO.,

REFINERS AND SHIPPERS OF

Maverick Standard Burning Oils, Naphthas AND Gas Oils

OF ALL GRADES, IN BULK, BARRELS AND CASES.

REFINERY: Chelsea Street, EAST BOSTON.
OFFICE: 61 Broad Street, BOSTON.

WAREHOUSES: 33 & 35 Commercial St., PORTLAND, ME.
Front, Cor. May Street, BANGOR, ME.

PROPRIETORS OF THE WELL-KNOWN BRAND OF

CENTENNIAL SAFETY OIL.

This Oil, by its High Test, is safer in use than other Burning Oils, and gives the most brilliant light. It does not crust the wick, and is free from disagreeable odor and smoke in burning.

Oils Delivered by the car load in bulk or in barrels at any point in New England.

EMPIRE REFINING CO.,

LIMITED.

Refiners and Packers of Petroleum and its Products

IN BARRELS AND CASES.

OFFICES:

26 BROADWAY, NEW YORK.

Works: NEWTOWN CREEK, GREENPOINT, L. I.

BEACON OIL CO.,

PACKERS & SHIPPERS OF PETROLEUM

IN CASES AND BARRELS.

For Export and Home Trade.

AND PROPRIETORS OF THE WELL KNOWN BRANDS

Beacon Light (High Test) and Beacon (Standard)

ALSO CRUDE PETROLEUM AND NAPHTHAS.

Works Chelsea St., E. Boston. **Office. 26 Broad St. Boston.**

ACME OIL COMPANY;

REFINERS OF PETROLEUM.

Manufacturers of the CROWN ACME OIL

Prepared with great care for Family use, absolutely safe and the best Illuminator in the World.

Works at Olean, N. Y. and Titusville, Pa. **Main Office, 26 BROADWAY, NEW YORK.**

Vesta Oil Works,

REFINERS AND PACKERS OF

PETROLEUM AND ITS PRODUCTS,

Office, 134 Maiden Lane, New York.

Works. First and Bond Streets SOUTH BROOKLYN

IMPORTANT TO RAILROAD MANAGERS AND MASTER MECHANICS.

SIBLEY'S PERFECTION VALVE OIL

More perfect lubrication insured and entire freedom guaranteed from corrosion of cylinders and de struction of steam joints by fatty acids. In exclusive use on forty railroads. References and prices fur nished upon application. Has stood the test for 17 years.

Make exclusive Specialty of the manufacture of Valve and Signal Oils for Railroad use.

SIGNAL OIL WORKS, Limited,

J. C. SIBLEY, President. **FRANKLIN, PA.**

McKIRGAN OIL CO.

MANUFACTURERS OF

"Giant Engine" and "Imperial Cylinder" Oils.

Dealers in best grades of Lubricating and Illuminating Oils, Paraffine Wax; Naphtha and Gasoline of all qualities.

94 to 106 PASSAIC STREET, NEWARK, N. J.

MANUFACTURER OF EVERY PRODUCT OF PETROLEUM.

Eclipse Lubricating Oil Co.,

(LIMITED,)

OF FRANKLIN, PA.,

MANUFACTURERS OF

Lubricating and Burning Oils of all Grades & Gravities and Cold Tests

ADAPTED TO THE WEATHER AND CLIMATE.

We make 300 deg. test BURNING OIL A SPECIALTY. We have the largest filtering capacity in the world, and turn out a very large amount of every grade of filtered petroleum Our WOOL OIL STOCKS and NEUTRAL OILS are used the world over.

ALSO MANUFACTURERS OF THE CELEBRATED

MATCHLESS VALVE & CYLINDER OIL.

Warranted not to CORRODE the IRON or EAT the PACKING, and to make more mileage than tallow or lard, and which we sell only to Railroad Com panies or through our authorized agents. The Matchless Cylinder Oil cannot be bought of dealers. In use on 60 Railways.

Main Office, Franklin, Pa. **Refineries, Franklin, Pa, Olean, N. Y. Erie Pa,**

The Devoe Manufacturing Co.
47 New Street, New York City,
Proprietors and Manufacturers of the
Celebrated brands of Illuminating Oils.
Devoe's Brilliant—Photolite—Sterling
and Nonpareil

ACME OIL CO.,
REFINERS of PETROLEUM,
MAKE A SPECIALTY OF SUPPLYING THE
DOMESTIC TRADE.
Works at Titusville, Pa. and Olean, N. Y
We offer all grades of Illuminating Oils of the finest quality and guarantee the greatest care and promptness possible in filling orders. Have unequalled facilities.
Main Office, 26 BROADWAY, NEW YORK.

STANDARD OIL CO.,
NAPHTHA DEPARTMENT.
Refiners of Naphtha and Gasoline.

63° Deodorized Naphtha,
Especially valuable to Varnish Manufacturers, Painters and Printers.
Redistilled Naphthas,
For Gas Companies.
Deodorized Stove Gasoline
Meeting every requirement of the varied Vapor Stove Burners
Redistilled Gasoline
For Street Lamps, Vapor Burners and Torches.
86° to 90° Gasoline.
For Gas Machines
Agencies in all the principal Cities through the West and South.
Office, 43 Euclid Ave., Cleveland, Ohio.

CHEMICALS

POWERS & WEIGHTMAN,

PHILADELPHIA, AND No. 56 MAIDEN LANE, NEW YORK.

MANUFACTURERS OF

QUININE, QUINIDINE, CINCHONIDINE, CINCHONINE,—Sulphate and other Salts,

MORPHINE—Sulphate and other Salts.

CODEINE, STRYCHNINE, SILVER—Nitrate, BROMIDE and IODIDE POTASSIUM, CHLOROFORM, ETHERS, MERCURIAL PREPARATIONS, ALUM, BLUE VITRIOL, EPSOM SALT, COPPERAS,

ACIDS—Tartaric, Citric, Sulphuric, Nitric, Muriatic, etc.

AND A GENERAL ASSORTMENT OF

Chemicals for use in Medicine and the Arts.

Tartar Chemical Company,

Manufacturers of 99-100 Per Cent

CREAM OF TARTAR

TARTARIC ACID, TARTAR EMETIC, &c.

OFFICE AND WORKS,

Morgan and Warren Sts., JERSEY CITY, N. J.

MARX & RAWOLLE,

MANUFACTURERS OF

GLYCERINE

CHEMICALLY PURE.

Glycerine for Nitro and for all other Manufacturing Purposes.

163 WILLIAM STREET, NEW YORK.

MARSH & HARWOOD CO.,

Cleveland, O. St. Louis, Mo. Cincinnati O.

MANUFACTURERS OF Chemically Pure Distilled 1.260 Sp. Gr.

Glycerin.

ALSO GLYCERIN FOR NITRO-GLYCERIN AND OTHER PURPOSES.

Mixed Acid for Nitro-Glycerin

SULPHURIC ACID, NITRIC ACID, SULPHATE AMMONIA, AQUA FORTIS, MURIATIC ACID, COPPERAS, AQUA AMMONI &c. &C.

New York Agents for the sale of Glycerin, Standard Chemical Co., 71 Wall St.

CHAS. PFIZER & CO.,

NEW YORK,

MANUFACTURERS OF

Pharmaceutical and Photographic Chemicals.

CREAM TARTAR CRYSTALS AND POWDERED 99°

TARTARIC ACID, ROCHELLE SALTS,

Refined and Powdered Borax. Refined Camphor

DYEWOODS, EXTRACTS, LIQUORS, DYESTUFFS,

Chemicals and Acids.

NEW YORK DYEWOOD, EXTRACT AND CHEMICAL COMPANY.

Office, 55 Beekman St., N. Y.

WORKS, BROOKLYN, N. Y

Union Chemical Works

Manufacturers of 100 per cent.

CREAM OF TARTAR.

Works: NEWARK, N. J. New York Office 49 CEDAR STREET.

H. J. BAKER & BRO.,

215 PEARL ST., NEW YORK.

IMPORTERS OF

SHELLAC.

MAUFACTURERS OF

SALTPETER ALL GRADES,

Castor Oil, "Crystal" & "AA" Camphor, Borax.

FERGUSSON BROS., Philadelphia, Selling Agents,

CRESCENT WHITING MILLS · BROOKLYN · NEW-YORK · TRUSLOW & Co.

TRUSLOW & Co.,

New York.

CORKS,

BREWERS' AND BOTTLERS' SUPPLIES.

WHITING.

M. WERK & CO.,

CINCINNATI, O.

MANUFACTURERS AND DISTILLERS OF PURE WHITE ODORLESS AND Chemically Pure

GLYCERINE

ALSO GLYCERINE FOR NITRO-

PROCTER & GAMBLE,

CINCINNATI.

Formerly AMERICAN GLYCERINE COMPANY,

Manufacturers AND Refiners OF Glycerine.

ESTABLISHED 1848

W. J. M. GORDON, 710, 712, 714 716 718, 720 PLUM ST

Manufacturing Chemist, CINCINNATI, OHIO.

Manufacturer of Chemically Pure Distilled

GLYCERIN

And Glycerin for Nitro-Glycerin and all purposes for which it is used.

AQUA AMMONIA, 26 deg. and other strengths

CORRESPONDENCE WITH LARGE BUYERS SOLICITED.

Chicago Glycerine Co.,

41st and Clark Sts.,

(Union Stock Yards,) TRADE MARK CHICAGO.

REFINERS, MANUFACTURERS AND SHIPPERS

—OF—

Chemically Pure Glycerine,

ALSO

GLYCERINE FOR NITRO AND OTHER PURPOSES

CORRESPONDENCE SOLICITED.

LAIST & HOCHSTETTER,

Successors to HARTMANN, LAIST & Co.

CINCINNATI, OHIO, MANUFACTURERS OF

GLYCERINE,

DISTILLED Chemically Pure Specific Gravity 1.260.

Also GLYCERINE for NITRO-GLYCERINE and other manufactures

AGENTS:

New York, AUGUST GIESE, 48 Cedar Street, Philadelphia, D. C. LANDIS, 17 N. Front St. | Boston, R. H. PARKER & Co. San Francisco, PH. WOLF & Co

---

GOODWIN M'F'G CO.,

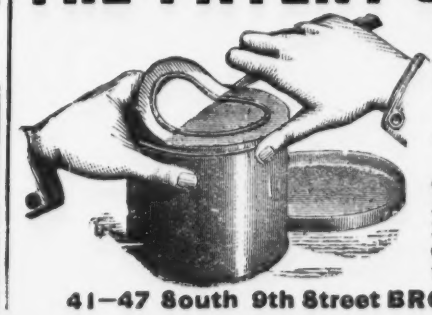
ST. LOUIS, MO. Manufacturers of

GLYCERINE.

Distilled Chemically Pure, Specific Gravity 1.260.

Also GLYCERINE for NITRO-GLYCERINE and other purposes

THE PATENT COVER CAN.



WM. VOGEL & BROS.

Manufacturers of

Tinware for the Drug, Paint Grocer and Spice Trades.

ESTIMATES FURNISHED ON APPLICATION

This can is provided with a cover, which being replaced after the top of the can (which is of thin tin) has been cut out, will enable the consumer to preserve the contents.

41–47 South 9th Street BROOKLYN, (E. D.) N. Y.

SUMAC EXTRACT

Warranted Absolutely Pure. Percentage of Tannin Guaranteed. Manufactured by
New York Sumac Extract Company.

Sole Agents: **WM. J. MATHESON & CO.,**
20 CEDAR STREET, NEW YORK.

Branch Houses: BOSTON, 147 Milk Street.
PHILADELPHIA, 18 N. Front Street.
PROVIDENCE, 25 Eddy Street.

C. O. BAXTER, Prest. CHAS. OTTMANN, Secy. H. E. NAFFZ, Treas.

The Gilson Asphaltum Co

115 & 117 Pine St., St. Louis, Mo.

"GILSONITE"

Trade Mark Registered,

Finest Quality of Asphaltum.

CORRESPONDENCE SOLICITED.

CHAS. LYMAN. J. W. KNOX. F. G. LYMAN.

LYMAN, KNOX & CO.,

Importers & Wholesale Druggists

374 & 376 St. Paul Street,

MONTREAL, CANADA.

WHEELER'S
Patent Wood Filler

Breinig's Lithogen Primer, Silica Paints,
WOOD STAINS, WHITE DRYERS, JAPANS, Etc.
THE
Bridgeport Wood Finishing Co., New Milford, Conn.
New York Office, 96 & 98 Maiden Lane.
Chicago Office and Warehouse, 211 East Randolph St.

Acetic Acid. Brimstone. Oil Vitriol. Copperas. Sulphur.

Manufacturers Passaic Chemical Co. 85 John St., NEW YORK.

CLAYTON AIR COMPRESSORS

For Elevating ACIDS and every other purpose. Send for Catalogue No. 5 1887.

CLAYTON AIR COMPRESSOR OFFICE 43 DEY ST. NEW YORK

BURROUGHS, WELLCOME & Co.,
Importers, Exporters, AND Manufacturing Chemists,

European Depôt for American Drug and Chemical Houses,
Snow Hill Buildings, Holborn Viaduct, LONDON, E.C.

DRUGS CHEMICALS AND PHARMACEUTICAL PREPARATIONS

EVANS SONS & CO.

Wholesale and Export Druggists,

56 HANOVER ST., LIVERPOOL.

EVANS, LESCHER & WEBB London England.
EVANS SONS & MASON, (Lt'd.) MONTREAL and TORONTO Can

Are prepared to make special arrangements with Americn buyers to purchase Drugs, Chemicals, etc., on the English and Continental markets, on commission. Being established in London and Liverpool over 50 years, and having a most extensive home and foreign trade, Messrs. E. S. & Co. are amongst the largest buyers of Drugs, etc., on the Liverpool and London markets, and can therefore, offer special facilities to their correspondents.

DR. KNORR'S ANTIPYRINE.

Patented.
SOLUBLE IN COLD WATER.

The best known of all modern antipyretics; has a world-wide reputation.

Antipyrine reduces temperature quickly, safely, and without any secondary effects.

Recommended in Diseases o Childhood, Typhoid Fever, Erysipelas, Acute Rheumatism, Phthisis; Headache, Migraine, Hay Fever, Asthma, Seasickness.

Dr. Germain Sée., Paris, prefers Antipyrine to Morphine in Hypodermic Injections, to relieve pain.

LUTZ & MOVIUS, New York,
SOLE LICENSEES FOR THE UNITED STATES OF AMERICA.

J. J. G. BORLIDO,

DEALER IN
Bath Bricks, Varnishes, Lubricating Greases,
Burning and Machinery Oils.

Supplies the principal Railway and Steamship Companies of Brazil.

ACCEPTS AGENCIES

To introduce any article relative to this or any other line of business.
Correspondence solicited. Address 21 Rua do Rosario, 21,
RIO DE JANEIRO, BRAZIL.

SMITH, KLINE & CO.

PHILADELPHIA.

Importers,
Manufacturers,
Jobbers,

We are the Exclusive Wholesale Agents for
Prof. Low's Liniment and Worm Syrup.
Dr. Laubach's Liniment and Worm Cure.
Dr. Sanderson's Herbs of Joy.
Sine's Syrup of Tar and Other Preparations.
Giant Chemical Co.'s Specialties.
A-Corn Salve.
Giant Liquid Glue.

DAVID B. CROCKETT CO., BRIDGEPORT, CONN.

Spar Composition
—AND—
Architectural Wood Preservatives

The only Genuine in the Market.

NEW YORK OFFICE,
84 WILLIAM ST

Parrott Varnish Co.,

BRIDGEPORT, CONN.,
Manufacturers of
FINE COACH & CAR VARNISHES

FERDINAND MÜLLER & CO.,

IMPORTERS OF
DRUGGISTS' AND CHEMISTS'
PORCELAIN GOODS.
First-Class Chemical Stoneware.
419 Broadway, New York.

Sole Agents for Friedr. Carl Müller. Stützerbach, Thüringen.
IMPORTATION ORDERS SOLICITED.

S. L. JONES. E. D JONES. **S. L. JONES & CO.,** Liberal Advances made of Consignments for Public or Private Sales.

AUCTIONEERS COMMISSION MERCHANTS AND IMPORTERS OF CHINESE AND JAPANESE GOODS,

Buyers of Ginseng. Agent in Hong Kong, FUNG TANG, Esq., 42 Bonham Strand. P. O. Box 2040. 207 & 209 CALIFORNIA ST., SAN FRANCISCO.

ROESSLER & HASSLACHER,

F. ROESSLER, J. HASSLACHER. } GERMAN GOLD AND SILVER REFINERY, Late ROESSLER, FRANKFURT A/M, Special Partners.

Manufacturing Chemists and Importers.

R. & H. Purified Chloroform
(Acetone Chloroform.)

G. & S. Sulphate of Quinine
(Gold and Silver Brand.)

Dr. Sevferth's Acetanilide
Four times more effective than Antipyrine.

Hyposulphite of Soda, Oxalic Acid, Prussiate of Potass, and other Chemicals for Pharmacy and the Arts.

73 PINE STREET, NEW YORK.